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Land Reform and Land Consolidation in Central and Eastern Europe after 1989

Experiences and Perspectives

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**LAND REFORM AND LAND
CONSOLIDATION IN CENTRAL AND
EASTERN EUROPE AFTER 1989**

EXPERIENCES AND PERSPECTIVES

by

Morten Hartvigsen



AALBORG UNIVERSITY
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CV

Morten Hartvigsen graduated as Chartered Surveyor from Aalborg University in 1991 with specialization in land management (M.Sc. in Land Administration and Land Management). In his professional career, he was during 1991 – 2006 employed as land consolidation planner, project manager and international coordinator by the Land Consolidation and Land Banking Unit of the Danish Ministry of Food, Agriculture and Fisheries. Since 2006 he has been head of the Land Management Section at Orbicon A/S, a private Danish consultancy with a total staff of around 500 people. He has over the years been responsible for the implementation of a large number of land management and land consolidation projects in Denmark, mainly in connection with nature restoration, afforestation and infrastructure projects.

Since 2000, he has worked as international consultant and team leader for FAO, the World Bank and others on projects in relation to land consolidation, land management and rural development. His international experience is mainly from countries in Central and Eastern Europe including Lithuania, Armenia, Hungary, Moldova, Kosovo, Croatia, Bulgaria, Albania, Bosnia and Herzegovina and FYR Macedonia.

ENGLISH SUMMARY

The countries in Central and Eastern Europe began a remarkable transition from centrally planned economies towards market economies in 1989 when the Berlin Wall fell. Land reforms were high on the political agenda in most of the countries. In some countries, land reforms resulted in a complete break-up of the large scale collective and state farms, while in other countries the farm structures fundamentally remain the same as before beginning of transition. In many countries in the region, land reforms have resulted in farm structures dominated by small and fragmented farms, which are not competitive in the globalized economy. Drawing on the classical theory on land fragmentation, this PhD study explores the coherence between the land reform approaches applied in 25 study countries and the outcome in form of farm structures and the fragmentation of both land ownership and land use.

During the quarter of a Century, which has passed since the beginning of transition, most of the Central and Eastern European countries have introduced land consolidation instruments to address the structural problems with land fragmentation and small farm sizes. The PhD study analyses the experiences from introduction of land consolidation and land banking instruments in 25 countries in the region and provides the first full overview of the experiences achieved. Seven of the countries already have ongoing national land consolidation programs while land consolidation instruments have been introduced in further 13 countries, which not yet have an operational programme. Based on the analysis, it can be expected that additional four to five countries in the region may have ongoing programmes within the next four to five years.

While land consolidation instruments are well on the way and still developing in the region, land banking instruments have largely failed in the region, at least as tools for supporting land consolidation programs. Based on the limited theory available, the analysis have revealed how limited land mobility is often hampering the outcome of land consolidation projects and also documented the need for land banking instruments in support of land consolidation programmes. Finally, the research has documented the need for a land consolidation model more suitable for the Central and Eastern European context than the classical models usually applied. Such a model, *integrated voluntary land consolidation*, has been presented and discussed.

This thesis includes five papers accepted for publication in international peer-reviewed journals, of which four are already published, and two working papers published by FAO in their Land Tenure Working Paper Series.

DANSK RESUMÉ

Landene i Central og Østeuropa begyndte en bemærkelsesværdig udvikling fra en central planlagt økonomi mod markedsøkonomi, da Berlinmuren faldt i 1989. Jordreformer stod højt på den politiske dagsorden i de fleste af landene. I nogle lande førte jordreformer til en komplet opløsning af de store kollektiv- og statslandbrug, mens landbrugsstrukturerne i andre af landene fortsat er stort set uforandrede. Jordreformer har i mange af landene i regionen medført landbrugsstrukturer domineret af dårlig arrondering og små ejendoms- og bedriftsstørrelser, der ikke er konkurrencedygtige i den globaliserede økonomi. PhD studiet har med baggrund i den klassiske teori omkring problemerne med dårlig arrondering undersøgt sammenhængen mellem de anvendte jordreforms tilgange i 25 studielande og reformernes resultater i form af landbrugsstrukturer og arronderingsforhold.

De fleste af landene i Central og Østeuropa har i løbet af det kvarte århundrede, der er forløbet siden Berlinmuren faldt, introduceret jordfordeling som redskab til at håndtere de strukturelle problemer med dårlig arrondering og små ejendoms- og bedriftsstørrelser. PhD studiet analyserer introduktionen af jordfordelings- og jordkøbsinstrumenter i de 25 lande i regionen og giver for første gang et fuldt overblik over erfaringerne. Syv af landene har allerede igangværende jordfordelingsprogrammer, og jordfordelingsinstrumenter er blevet introduceret i yderligere 13 lande, uden at de endnu kan siges at have igangværende programmer. Med baggrund i undersøgelsen kan det forventes, at yderligere fire til fem af landene i regionen vil have operationelle programmer i løbet af de næste fire til fem år.

Hvor udviklingen af jordfordelingsinstrumenter er godt på vej, så har jordfonde indtil videre ikke slået an i regionen, i hvertfald ikke som støtte til jordfordeling. PhD studiet afdækker med udgangspunkt i den begrænsede tilgængelige teori omkring jordmobilitet, hvordan lav jordmobilitet ofte er en ganske begrænsende faktor for resultatet af jordfordelingsprojekter og har derved dokumenteret behovet for jordfonde som støtte til jordfordeling.

Endelig dokumenterer forskningsprojektet behovet for en jordfordelings-model, der er mere egnet til en Central og Østeuropæisk sammenhæng end de klassiske modeller. En sådan model, *integreret frivillig jordfordeling*, bliver præsenteret og diskuteret.

I afhandlingen indgår fem artikler, der er accepteret til udgivelse i internationale fagfællebedømte tidsskrifter, hvoraf de fire allerede er publicerede, samt to working papers, der er udgivet af FAO i deres Land Tenure Working Paper serie.

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None of this work would have ever been possible without the assistance and support of almost 100 key persons from all 25 study countries in Central and Eastern Europe as well as from land tenure experts from international organizations and Western European countries with project experience from the region. I am very grateful to all of them and I have aimed at acknowledging their valuable contributions in the individual chapters of the thesis.

I am grateful to Orbicon for engaging in the project and the cooperation with Aalborg University and I owe my colleagues and management at the Orbicon, Water and Nature Resources Department in Aarhus many thanks for everything from encouragement, practical assistance with figures and tables to review of draft versions of papers.

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*Morten Hartvigsen
Silkeborg, January 2015*

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PART 1

Introducing land reform and land consolidation in Central and Eastern Europe

Part 1 of this PhD thesis introduces the land reform and land consolidation efforts, which were initiated in 25 countries in Central and Eastern Europe (CEE) after the Berlin Wall fell in November 1989 and the transition from centrally planned to market economy began.

Chapter 1 – Introduction to land reform and land consolidation in Central and Eastern Europe – sets the scene for the research project. The background for the project is explained both in terms of the situation and developments in the CEE countries but also in terms of background and motivation of the author. The scope of the research and the research questions are presented as well as the delimitation of adjacent problem fields. The structure of the thesis is explained.

In **Chapter 2** – Methodology – is providing an overview and discussion of the research methodology and the working process applied in the specific chapters.

In **Chapter 3**, the Danish land consolidation and land banking tradition is analyzed and discussed. The chapter is subsequently used as a reference for analyzing the introduction of land consolidation and land banking in the CEE countries. The chapter is a peer-reviewed paper published in the Danish Journal of Geoinformatics and Land Management, Year 122, Vol. 47, 1-7 (2014).

Chapter 4 is a peer-reviewed paper published by FAO in the Land Tenure Journal no. 2/2012. The paper provides the full picture in one CEE country – Moldova – of land reform, its outcome in form of land fragmentation and farm structures as well as the experiences so far with regard to introduction of land consolidation. The paper was written in the beginning of the research process and has also served the important objective of final adjustment of the research scope and the connected research questions.

CHAPTER 1

1 INTRODUCTION TO LAND REFORM AND LAND CONSOLIDATION IN CENTRAL AND EASTERN EUROPE

The fall of the Berlin Wall in 1989 started the beginning of transition from centrally planned economy to a market economy in the countries in Central and Eastern Europe (CEE). The transition process was in the region driven by a mixture of political and economic objectives and in some of the countries also by a strong drive for independence.¹ Land reforms and restructuring of the traditional large-scale socialist farms were in all CEE countries a key part of the overall agrarian reforms. During the 1990s, most of the countries in the region conducted land reforms to privatize state and collective farms and in parallel build up land administration systems. However, these land reforms are only the latest in a succession of land reforms in most of the CEE countries during the last century. In this perspective, the first land reforms were often carried out between the two World Wars. Again immediately after the Second World War, many countries implemented land reforms where land was confiscated from German owners and collaborators during the war, as well as from large estates, and was distributed to the landless rural population and to small family farms. From the early 1950s, the collectivization process began in most of the countries, which can be seen as the third land reform and finally the land reforms that began after 1989 are thus the fourth wave in many countries. It is important to bear in mind also these previous reforms and their considerable impact on living conditions in rural areas when discussing the recent land reforms and their outcome.

25 years have passed since the beginning of transition and land reforms have been conducted and also finalized in most of the countries in the region. Based on local preconditions, e.g. previous land reforms and their outcome, the countries applied a variety of land reform approaches with the main methods being the restitution of ownership to former owners and the distribution of agricultural land in either physical parcels or land shares to the rural population.

¹ Lerman, Z. et al. (2004a): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, p. 3.

In some CEE countries, land reforms after 1989 have completely changed the farm structures that existed during the socialist era while in other countries the farm structures remain basically the same. As a result of the recent land reforms the ownership of agricultural land has become fragmented to a medium or high extent in almost all the countries. In Poland and ex-Yugoslavia, ownership of agricultural land is highly fragmented but this is mainly due to the continued existence of farm structures that existed prior to the Second World War. In most of the countries in the region also the land use is fragmented. In addition, the average agricultural holding and farm sizes are small in CEE when compared to those of Western Europe.

Governments in the region have during the 1990s and 2000s mostly recognized the need to address the structural problems in agriculture with land fragmentation and small farm sizes and land management instruments such as land consolidation and have been introduced to address the problems. Some of the countries already have ongoing national land consolidation programmes while others are in the process of preparation for operational programmes.

A number of books and research papers have from mid-1990s and onwards been published on land reform in individual CEE countries and a few comprehensive overviews have been provided (e.g. Swinnen et al. 1997 ²; Wegren, 1998 ³; Giovarelli and Bledsoe, 2001 ⁴; Lerman et al. , 2004 ⁵; Sedik and Lerman, 2008 ⁶). Also in relation to the introduction of land consolidation and land banking, a number of research and conference papers have been published analysing the situation in individual countries but very few comparative papers exist (e.g. Van Dijk, 2003 ⁷; Thomas, 2006 ⁸; Hartvigsen 2006 ⁹). However, this PhD thesis reports the first comprehensive study of: i) the coherence between applied land reform approaches in Central and Eastern Europe after 1989, ii) the outcome of land reforms in form of farm structures and land fragmentation and iii) the introduction of land consolidation and land banking instruments to address the

² Swinnen, J. et. al. (Eds) (1997): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd., Aldershot.

³ Wegren, S. (Edt.) (1998): *Land Reform in Former Soviet Union and Eastern Europe*. Routledge.

⁴ Giovarelli, R. and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO.

⁵ Lerman, Z. et al. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexinton Books.

⁶ Sedik, D. and Lerman, Z. (2008): *Land Reform, Transition, and Rural Development*. Development & Transition no. 11/December 2008. UNDP and London School of Economics and Political Science.

⁷ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon.

⁸ Thomas, J. (2006). *Attempt on Systematization of Land Consolidation Approaches in Europe*. ZfV - Zeitschrift für Geodäesie, Geoinformation und Landmanagement 3/2006.

⁹ Hartvigsen, M. (2006): *Land Consolidation in Central and Eastern European Countries*. Conference paper for FIG Congress, Munich 2006.

structural problems in agriculture. The study includes 25 countries in CEE from the Baltic and Central European countries in the west, to the Russian Federation and the small Transcaucasus countries in the east, and to the Balkan countries in the south.

The study of land reform and land consolidation in CEE has been conducted in the period January 2012 – January 2015 at Aalborg University, Department of Development and Planning. The project has been supported by the Ministry of Higher Education and Science under the Industrial PhD Programme. The author (PhD fellow) has an educational background as Chartered Surveyor with specialization in land management from Aalborg University in 1991. In his professional career, he has first worked for 15 years as land consolidation planner and project manager in the Land Consolidation and Land Bank Unit of the Danish Ministry of Food, Agriculture and Fisheries and subsequently for eight years as Head of Land Management Section and project manager at Orbicon, a Danish consultancy company with a total staff of around 500 people. As industrial PhD student, the author has during the study period worked half the time on the project at the university and half the time at the company, Orbicon.

Over the years, the author has been project manager of a large number of Danish property pre-studies and land consolidation projects, especially in connection with nature restoration, afforestation and infrastructure projects. During the last 15 years, he has in addition worked as international consultant and team leader on a significant number of projects related to land consolidation, land management and rural development in so far 10 countries in Central and Eastern Europe. In addition, he has participated in a large number of workshops and conferences with focus on improved land management in CEE. The motivation for the PhD work on land reform and land consolidation in CEE originates from the practical project experiences of the author in the region.

The focus of the PhD study has been first to look at the land reform approaches applied in the 25 CEE study countries and the outcome in form of ownership of agricultural land and farm structures including land fragmentation and farm sizes. Second, the study has focused on the introduction of land consolidation and land banking instruments to address the structural problems in agriculture in the same countries. It has been the aim of the study to provide answers to the following research questions:

- *What is the linkage between the chosen land reform approach and the outcome in the form of farm structure and land fragmentation?*
- *Under which conditions is land fragmentation a barrier for development of the rural land market and the agricultural and rural sector in general?*

- *How should the land reform approach be designed if the objective is to dismantle the large-scale corporate farms and build individual commercial farms without creating excessive land fragmentation?*
- *What have been the driving factors behind the introduction of land consolidation and land banking instruments in the countries in Central and Eastern Europe?*
- *What have been the key approaches and elements in the land consolidation and land banking instruments introduced in the region?*
- *What are the experiences and results with the introduction of land consolidation and land banking in the region in relation to improvement of agricultural structures and the facilitation of rural development?*
- *What is the main content of a model for land consolidation and land banking instruments suitable for Central and Eastern Europe based on previous experiences in the region and international best practice?*

The research topics, i.e. mainly land reform, land fragmentation, land consolidation and land banking, are tangled tightly with closely related topics such as land administration, land market development as well as agricultural and rural development. Land administration systems including land registration and cadastre are among the cornerstones of modern market economy and among the traditional benefits are security of tenure, support for formal land markets and support for governance and rule of law.¹⁰ Many efforts have been put into the development of reliable and up-to-date land administration systems in most of the CEE countries from the early 1990s and onwards, often in parallel with the land reform process in the country. Also land administration systems are closely related to land consolidation instruments as they provide the data on land ownership at the beginning of land consolidation projects and ensure the formal registration of new land ownership in the project area after the re-allotment planning.

Also land consolidation and the development of rural land markets are closely related topics. The situation in many of the CEE countries is often that formal rural land markets are not functioning well for a wide range of reasons. Land consolidation can support development of formal land markets and should be seen in this light and not as an alternative to the normal land market transactions. Agricultural and rural development, including increased productivity and competitiveness of farms and improved living conditions for the rural population, is the goal of most countries in CEE as elsewhere. Land management instruments such as land consolidation and land banking can be used as tools in the development process in rural areas but agricultural and rural development also include numerous aspects where land consolidation is not relevant. It has not been

¹⁰ Williamson, I. et. al. (2010): *Land Administration for Sustainable Development*, p. 17-18.

the aim of the research to study these related topics in detail and research on these topics has only been included where relevant for the research on the core study topics.

The thesis has four parts:

- **Part 1** *Introducing land reform and land consolidation in Central and Eastern Europe*
- **Part 2** *Land reform and its outcome*
- **Part 3** *Land consolidation and land banking*
- **Part 4** *The future of land consolidation and land banking in Central and Eastern Europe*

In **Part 1**, land reform and land consolidation in a Central and Eastern European context is introduced. *Chapter 2* is providing an overview and discussion of the research methodology and the working process applied in the specific chapters. In *Chapter 3*, the Danish land consolidation and land banking tradition is analyzed and discussed. The chapter is subsequently used as a reference for analyzing the introduction of land consolidation and land banking in the CEE countries. The chapter is a peer-reviewed paper published in the Danish Journal of Geoinformatics and Land Management (2014). *Chapter 4* is a peer-reviewed paper published by FAO in the Land Tenure Journal no. 2/2012. The paper provides the full picture in one CEE country – Moldova – of land reform, its outcome in form of land fragmentation and farm structures as well as the experiences so far with regard to introduction of land consolidation.

Part 2 is on land reforms and their outcome. In *Chapter 5*, the land reform approaches applied in each of the 25 study countries after 1989 are analyzed and discussed. Furthermore, the farm structures and land fragmentation in each country after the land reforms are assessed. The chapter is published by FAO as Land Tenure Working Paper 24 (2013). *Chapter 6* then establishes the first complete overview of the land reform approaches applied in the CEE countries. In order to understand the nature of land fragmentation in CEE, the theory and definitions of land fragmentation are discussed. With the conceptual framework on land fragmentation in place, the current situation in the study countries with land fragmentation and farm structures is discussed and an overview is provided. The chapter is a peer-reviewed paper published in Land Use Policy 36 (2014).

Part 3 is about the introduction of land consolidation and land banking instruments in CEE. In *Chapter 7*, the introduction of land consolidation and land banking instruments in the region after 1989 is reviewed and analyzed for each of the 25 study countries in a comprehensive and systematic way and a full and updated overview is for the first time provided. The chapter is published by FAO as Land Tenure Working Paper 26 (2015). *Chapter 8* explores the problems and

possible solutions related to low land mobility in a CEE land consolidation context. First, the limited theory available on land mobility is reviewed. Second, land mobility is studied in three country cases (Moldova, Albania and Bosnia and Herzegovina). Finally, the available tools to increase land mobility are discussed. The chapter is a peer-reviewed paper published in *Nordic Journal of Surveying and Real Estate Research*, Volume 10, Number 1, 2014.

Part 4 looks to the future of land consolidation and land banking in the 25 study countries. In *Chapter 9*, the suitability of the two classical European land consolidation models; i) comprehensive and compulsory land consolidation and ii) simple voluntary land exchange are discussed in a CEE context and rejected as fully adequate. A third model, integrated voluntary land consolidation, is presented and discussed as an outline for tailor-made land consolidation instruments in the CEE countries. The chapter is a peer-reviewed paper accepted for publication in the *FAO Land Tenure Journal* (forthcoming issue to be published in early 2015). Finally, *Chapter 10* provides the general conclusions and perspectives of the research presented in the thesis.

CHAPTER 2

2 RESEARCH METHODOLOGY AND PROCESS

This chapter is about the research methodology and work process applied during the PhD research. The methodologies and work processes used in the different parts of the study are further explained in the subsequent chapters.

As it was explained in Chapter 1, the main aim of the PhD work has been to conduct a comprehensive and comparative study of land reform and land consolidation in CEE in the following logical sequence: i) the coherence between applied land reform approaches in Central and Eastern Europe after 1989, ii) the outcome of land reforms in form of farm structures and land fragmentation and iii) the introduction of land consolidation and land banking instruments to address the structural problems in agriculture. The outcome of the study has been presented in five peer-reviewed journal papers (Chapter 3, 4, 6, 8 and 9) and two longer working papers published by FAO, the Food and Agriculture Organization of the United Nations (Chapter 5 and 7).

Different research methodologies as well as work processes have been applied in the research reported in the different chapters (papers). However, in all chapters, a mix of quantitative and qualitative methods have been used depending on the research questions concerned and the availability of data. Chapter 5 and 7, i.e. the two working papers, represent the cornerstones of the research and have provided the basis for the journal papers in Chapter 6 and 9. The research process, timeframe and the coherence between Part 1-4 and Chapter 3-9 of the thesis is illustrated in figure 2.1. The relationship between research questions, methodology and work process, results and reporting in the thesis is illustrated in figure 2.2.

In **Chapter 3** (the paper on the Danish land consolidation and land banking tradition), the research behind the paper is based on desk studies of available journal papers, annual reports and the few existing papers and books about the Danish land consolidation tradition. However, it also draws extensively on the authors more than 20 years of practical working experience with land consolidation and land banking in Denmark. The biggest challenge in relation to Chapter 3 has been to compile data on the Danish land consolidation activity during 1990-2013 (e.g. number of approved projects, number of participating landowners, participating area). These data were not directly available and only

compiled manually with great support from the Land Consolidation and Land Banking Unit of the Ministry of Food, Agriculture and Fisheries.

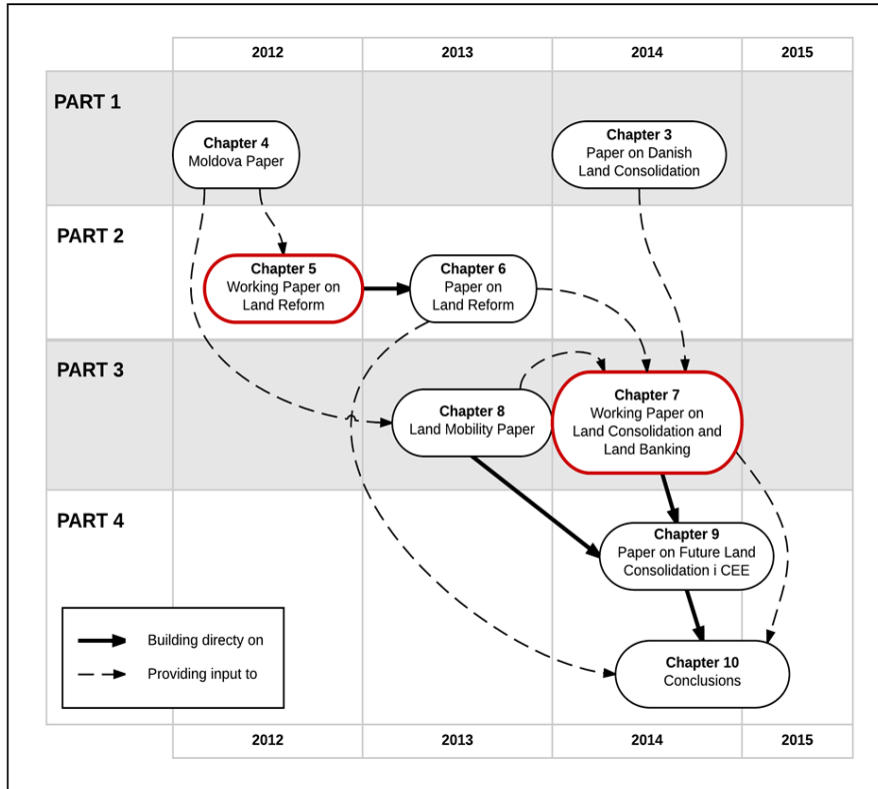


Figure 2.1: Research process and main coherence between thesis Part 1-4 and Chapter 3-9.

In **Chapter 4** (the paper on land reform, the outcome of land reform and the introduction of land consolidation in Moldova), the research behind the paper builds on desk studies of available journal papers and project reports and documents. The paper also draws on the authors experiences with several development projects in the country, especially in relation to the introduction of land consolidation.

Chapter 5 is the first cornerstone in the conducted research (working paper on land reform and its outcome in form of farm structures and land fragmentation in the 25 study countries). The paper is based on desk studies of the few available comparative papers and books and a large number of papers on land reform in individual countries. The level of documentation on land reform and its outcome varies considerably from country to country, with much information being

available for most of the Central European countries and little information available for most of the countries of ex-Yugoslavia and for the three Transcaucasus countries.

The work of Van Dijk on land fragmentation in a CEE context revealed that there are two fundamentally different aspects of the fragmentation problem, the fragmentation of land ownership and the fragmentation of land use.¹¹ Thus, it would be most desirable to have comparative quantitative data on both land ownership (e.g. average size of agricultural parcels, average number of parcels per holding and average size of agricultural holdings) and land use (e.g. average farm sizes and data on leasing of agricultural land). Unfortunately, the study has shown that not all the desirable data are available. Furthermore, it is often difficult to compare between the countries where data are available. These problems with data not being available and comparable have been overcome first by contacting key persons from the relevant public institutions (e.g. Ministry of Agriculture or cadastre agency) or academia in the concerned countries. This has for a number of countries made data available for the project which before had not been available in English. Second, the problems have been overcome by supplementing the available quantitative data with qualitative descriptions and analysis. Furthermore, the country key persons have been used to verify the information in the country sections.

Chapter 6 (the comparative paper on land reform and its outcome in the 25 study countries) builds directly on the research conducted and presented in Chapter 5. Thus, the methodology and working process has greatly been the same as for Chapter 5. Also in Chapter 6, the classical theory on land fragmentation (e.g. Binns, 1950¹²; King and Burton, 1982¹³; McPherson, 1982¹⁴; Bentley, 1987¹⁵) is discussed together with the few theoretical attempts to assess land fragmentation in a CEE context (i.e. Van Dijk, 2003b¹⁶; Sabates-Wheeler, 2002¹⁷).

¹¹ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon, p. 15-22.

¹² Binns, B. (1950): *The Consolidation of Fragmented Agricultural Holdings*. FAO.

¹³ King, R. and Burton, S. (1982): *Land fragmentation: notes on a fundamental rural spatial problem*. *Progress in Human Geography* 6(4): 475-494.

¹⁴ McPherson, M. (1982): *Land Fragmentation: A Selected Literature Review*. Development Discussion Paper No. 141. Harvard Institute for International Development, Harvard University.

¹⁵ Bentley, J.W. (1987): *Economic and Ecological Approaches to Land Fragmentation: In Defense of A Much-Maligned Phenomenon*. *Annual Review of Anthropology*, Vol. 16.

¹⁶ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon.

¹⁷ Sabates-Wheeler, R. (2002): *Consolidation initiatives after land reform: Responses to multiple dimensions of land fragmentation in Eastern European agriculture*. *Journal of International Development* nr. 14, p. 1005-1018.

Chapter 7 is the second cornerstone in the conducted research (working paper on the experiences with land consolidation and land banking in CEE after 1989). In this part of the PhD work, mainly qualitative methods have been applied. In the first stage of the research behind the Chapter / paper, desk studies of all available documents (e.g. journal and conference papers, project reports and government programmes) were conducted. In the second stage, draft so-called land consolidation overview sheets were prepared for each of the 25 study countries based on the outcome of the desk studies. In this process, the author drew extensively on his working experience from projects in the region. The intention of preparing the overview sheets has been to collect similar and consistent information to allow for a comparative analysis between the countries.

In the third stage of the study, two to four key persons with special insight and experience with the topics studied were identified in each country. One of the key persons was often a senior person from the Ministry of Agriculture or similar central state institution either currently responsible for the ongoing land consolidation programme or from an institution expected to be responsible for a programme in the future. Another group of key persons were project managers and lead consultants involved in technical assistance projects. Finally, representatives from academia with an interest in the research topics were selected as key persons. To the extent possible, semi-structured qualitative research interviews were conducted with the key persons using the draft overview sheets as interview guidelines.¹⁸ The main objective of conducting the interviews was to verify the information in the draft overview sheets that had been prepared and to close the gaps where no written information was available in English. Also, the interviews were particularly important for obtaining information on the most recent developments in each country, which was often not documented in writing, at least not in English language. In total, 29 interviews with 41 key persons were carried out over a period of 9 months. The interviews were conducted usually as either face-to-face interviews or using Skype with video. All interviews were recorded and after each interview, a summary of the interview was prepared based on the recording. After the interviews, the relevant draft land consolidation overview sheet was revised and sent to the interviewees and other key persons for review and validation where needed. Where necessary, the interviews were supplemented by follow-up questions using emails. The final versions of the land consolidation overview sheets served as the basis for writing the paper. Finally, the overview sheets and the sections on the implementation of land consolidation have been the basis for the comparative analysis. Each step on the working process has been validated.

¹⁸ Kvale, S. and Brinkmann, S. (2009): *Interviews – Learning the craft of Qualitative Research Interviewing*, p. 130-134.

2. RESEARCH METHODOLOGY AND PROCESS



Interaction between landscape and people. Fragmentation of both land ownership and land use in Busauca Village, Moldova (above). Landowner negotiations in Moldova (2008) (below). Facilitating common solutions between the landowners for the re-allotment plan.

Research questions	Methodology and work process	Results	Reporting
1. <i>What is the linkage between the chosen land reform approach and the outcome in the form of farm structure and land fragmentation?</i>	Desk studies of documents and papers on land reform and its outcome in the CEE countries. Study of land fragmentation theory. Email correspondence with country key persons to fill gaps.	Overview provided of land reform approaches applied in each CEE country and linkage to the current situation with fragmentation of ownership and use of agricultural land.	Chapter 4 (journal paper – Moldova case). Chapter 5 (working paper on land reforms and their outcome). Chapter 6 (journal paper on land reforms and their outcome).
2. <i>Under which conditions is land fragmentation a barrier for development of the rural land market and the agricultural and rural sector in general?</i>	Desk studies of documents and papers on land reform and its outcome in the CEE countries. Study of land fragmentation theory. Email correspondence with country key persons to fill gaps.	Analysis on the impact of land ownership fragmentation and land use fragmentation in a CEE context provided.	Chapter 4 (journal paper – Moldova case). Chapter 6 (journal paper on land reforms and their outcome).
3. <i>How should the land reform approach be designed if the objective is to dismantle the large-scale corporate farms and build individual commercial farms without creating excessive land fragmentation?</i>	Desk studies of documents and papers on land reform and analysis of its outcome in the CEE countries.	Policy recommendations provided.	Chapter 4 (journal paper – Moldova case). Chapter 6 (journal paper on land reforms and their outcome).
4. <i>What have been the driving factors behind the introduction of land consolidation and land banking instruments in the countries in Central and Eastern Europe?</i>	Desk studies of documents and papers on land consolidation and land banking in CEE countries. Semi structured qualitative interviews with country key persons. Email correspondence with country key persons to fill gaps.	Driving factors behind introduction of land consolidation in CEE identified and discussed.	Chapter 4 (journal paper – Moldova case). Chapter 7 (working paper on introduction of land consolidation and land banking). Chapter 8 (journal paper on land mobility).
5. <i>What have been the key approaches and elements in the land consolidation and land banking instruments introduced in the region?</i>	Desk studies of documents and papers on land consolidation and land banking in CEE countries. Semi structured qualitative interviews	Key approaches and elements in land consolidation and land banking instruments in CEE countries identified and discussed.	Chapter 7 (working paper on introduction of land consolidation and land banking).

	with country key persons. Email correspondence with country key persons to fill gaps.		Chapter 9 (journal paper on land consolidation models suitable for CEE).
6. <i>What are the experiences and results with the introduction of land consolidation and land banking in the region in relation to improvement of agricultural structures and the facilitation of rural development?</i>	Desk studies of documents and papers on land consolidation and land banking in CEE countries. Semi structured qualitative interviews with country key persons. Email correspondence with country key persons to fill gaps.	Analysis and overview of the experiences with introduction of land consolidation and land banking instruments in CEE provided in relation to improvement of agricultural structures and facilitation of rural development.	Chapter 7 (working paper on introduction of land consolidation and land banking). Chapter 8 (journal paper on land mobility). Chapter 9 (journal paper on land consolidation models suitable for CEE).
7. <i>What is the main content of a model for land consolidation and land banking instruments suitable for Central and Eastern Europe based on previous experiences in the region and international best practice?</i>	Discussion based on the outcome of study of the introduction of land consolidation and land banking in CEE countries.	A new model for land consolidation and land banking suitable for the CEE context developed and discussed.	Chapter 7 (working paper on introduction of land consolidation and land banking). Chapter 9 (journal paper on land consolidation models suitable for CEE).

Figure 2.2: The relationship between research questions, methodology and work process, results and reporting in the thesis.

Chapter 8 (the paper on land mobility in a CEE land consolidation context) was written before the research behind Chapter 7 was conducted. The limited theory available on land mobility in land consolidation projects (Sørensen, 1987¹⁹) is assessed and discussed in a Central and Eastern European context based on case studies of land mobility in recently implemented land consolidation pilot projects in three CEE countries, Moldova, Albania and Bosnia and Herzegovina. Case studies can, according to Yin, cover multiple cases and then draw a single set of “cross-case” conclusions.²⁰ The three cases are explored through desk studies of

¹⁹ Sørensen, E.M. (1987): *Lokal Landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab*. Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21, p. 192-198.

²⁰ Yin, R. K. (2009): *Case Study Research – Design and Methods*. Fourth Edition. Sage Publications Inc., p. 20.

available project reports, including land ownership maps and land mobility maps, but primarily by drawing on the practical experiences from the author's involvement in the projects.

Chapter 9 (the paper on land consolidation and land banking models suitable for CEE), builds directly on the research conducted and presented in Chapter 7. Thus, the methodology and working process has greatly been the same as for Chapter 7. An outline for a new third model developed for land consolidation and land banking in a CEE context is presented and discussed.

Finally, **Chapter 10** (conclusions and perspectives) builds on the research and conclusions in the Chapters 3-9 and hence also on the research methodology and process used in these chapters.

CHAPTER 3

3 LAND CONSOLIDATION AND LAND BANKING IN DENMARK – TRADITION, MULTI- PURPOSE AND PERSPECTIVES

Paper published in peer-reviewed journal

Danish Journal of Geoinformatics and Land Management, Year 122,
Vol. 47, 1-7 (2014)

Abstract

The Danish land consolidation tradition has its roots in the land reform launched in the 1780s. The first “modern” land consolidation law was adopted in 1924. The land consolidation procedure is today basically the same as the system which was introduced in 1955. Until 1990, land consolidation was used as an instrument for agricultural development (i.e. mainly through reduction of land fragmentation and increase in agricultural holding sizes). In 1990, the objective of implementing land consolidation was broadened. It was explicitly included in the preamble of the land consolidation law that the objective is both to contribute to agricultural development and to the implementation of nature and environmental projects as well as to provide land as compensation for agricultural holdings affected by such projects. Since 1990, the land consolidation and land banking instruments have proven to be absolutely essential in the process of reaching voluntary agreements with the landowners affected by nature projects. Public funding of the traditional land consolidation projects with agricultural development as main objective was discontinued in 2006. At the same time, the land consolidation projects implemented in recent years (after a public initiative often in connection with the implementation of a nature project) may only include land transactions which contribute to the implementation of the public initiated project. Thus, the multi-purpose potential which could be expected after the amendment of the land consolidation law in 1990 has so far not been realized. The volume of the Danish land consolidation programme has in the last years been reduced more than half compared to the previous decades.

Keywords

Land consolidation, land banking, nature and environmental protection and restoration, Denmark.

3.1 INTRODUCTION

Land consolidation was in Denmark, like in many other Western European countries, used as one of the important instruments for agricultural development and hence supported shifting governments active land policy during the decades after WWII. Land consolidation projects were often initiated by local farmers in the villages and used to increase productivity and competitiveness of the participating agricultural holdings through reduction of fragmentation of land ownership and facilitation of the structural development by letting the active production holdings purchase additional land. At the same time, land consolidation was used in connection with large state supported land reclamation and drainage projects, also with the objective of agricultural development. The implementation of land consolidation projects with the main objective to facilitate agricultural development ceased in 2006 after the finalization of the Rural Development Programme for 2000-2006 due to change in political priorities.

From the late 1980s, land consolidation has been applied as an important tool in the implementation of public initiated projects such as nature restoration and afforestation. Landowners and farmers with agricultural land in designated project areas are offered other agricultural land in compensation instead of money and can continue their farm production or even increase it. It is expected that land consolidation in the coming years will be applied with an increased volume and will be funded under the Rural Development Programme for 2014-2020.²¹

The *land consolidation law* was amended in 1990 where the objective of implementing land consolidation was broadened. Hence, it was explicitly included in the preamble of the law that the objective of the law is both i) to ensure a better commercial use of agricultural holdings through reduction of fragmentation and improved structure and ii) to contribute to the implementation of nature and environmental projects and rural development as well as to provide land as

²¹ Ministry of Food, Agriculture and Fisheries. 2013. *Draft Danish Rural Development Programme for 2014-2020* (in Danish).

compensation for agricultural holdings affected of such projects.^{22 23} Before 1990, only the first part (agricultural development) was directly mentioned as the objective of the law.

Land consolidation in Denmark is with its voluntary approach and relative short duration of projects different from the land consolidation procedures and approaches in most other European countries. Very few papers on land consolidation in Denmark exist in English language and no recent ones. Therefore, it is the aim of this paper to make available comprehensive and updated information on the Danish land consolidation tradition and its development during recent decades.

Land consolidation is by nature a multi-purpose instrument. This means that it is possible to pursue different objectives in the same project, e.g. take land out of intensive agricultural production as part of nature restoration and at the same time improve productivity of the active production farms through reduction of fragmentation and enlargement of the agricultural holdings. The 1990 law amendment introduced the multi-purpose of the instrument into the law.

The land consolidation process and procedure in Denmark is today basically the same as it has been since amendment of the *land consolidation law* in 1955. The same land consolidation procedures were used in the decades after WWII for land reclamations and are now-a-days being used to recreate the nature that was then lost. In addition to explaining the Danish land consolidation tradition, the paper will analyze to what extent the instrument in its practical application has achieved the objective to pursue different purposes in the same project. Based on this analysis, the paper will give perspectives and recommendations for the future.

3.2 METHODOLOGY

This paper is based on desk studies of available documents, journal papers, annual reports and the few existing books about the Danish land consolidation tradition from its offspring more than 230 years ago to the current situation. The paper draws, however, also extensively on more than 20 years practical working experience of the author as project manager of a large number of Danish land consolidation projects, first during 15 years of employment by the Land

²² Klæsøe, L. 1997. *Jordfordelingsloven* (In Danish) (Law on Land consolidation). In Jørgensen, C. et al.(Edt.). *Jord lovgivning* (in Danish) (Land legislation). GADJura, p. 804-805.

²³ Hartvigsen, M. and Østergaard, F. 1993. *Erfaring med jordfordeling i forbindelse med større naturgenopretningsprojekter* (in Danish) (Experiences with land consolidation in connection with larger nature restoration projects). Landinspektøren. 36. bd., 560-563.

Consolidation Unit of the Ministry of Food, Agriculture and Fisheries and subsequently during 8 years in private consultancy.

3.3 THE DANISH LAND CONSOLIDATION TRADITION

The Danish land consolidation tradition has its roots in the land reform which was launched in the 1780s, the so-called enclosure movement. During the land reform, the common use of the land was abolished and village by village land for individual use by each agricultural holding was distributed. The ideal was to amalgamate the land of one holding in one location as close to the homestead as possible. A typical situation before and after the land reform is displayed in figure 3.1. The purpose of the land reform was to achieve a more effective land use and to increase productivity. The land reform process took 30-40 years and in 1837, only one percent of the agricultural land had not been reformed.²⁴ Similar land reforms were conducted in other European countries.



Figure 3.1: Oster Stillinge village near Slagelse before (left) and after land reform (right). Agricultural land belonging in ownership to one agricultural holding enhanced. More than 40 parcels consolidated into one parcel. Source: Østergaard 1967.²⁵

The first “modern” *land consolidation law* was adopted in Denmark in 1924 and was only applied in the Southern part of Jutland where Denmark after WWI had got back territory lost to Germany in the 1864-war. The background was that in the Duchy Schleswig land reforms were started earlier than in the rest of the country and resulted in a much poorer outcome.²⁶ In addition, a substantial part of the agricultural land had become public owned due to the active purchase by

²⁴ Boe, P. (1965): *Arronderingsproblemer i landbruget* (in Danish) (Fragmentation problems in agriculture). *Tidsskrift for Landøkonomi*, nr. 9, November 1965, p. 361.

²⁵ Østergaard, N. (1967): *Status over jordfordelingsplanlægningen*. Statens Byggeforskningsinstitut. SBI særtryk nr. 176, p. 2.

²⁶ Østergaard, N. (1967): *Status over jordfordelingsplanlægningen* (in Danish) (Status for Land Consolidation). Statens Byggeforskningsinstitut. SBI særtryk nr. 176, p. 2

the German state between 1864 and 1920.²⁷ The land consolidation instrument was together with the land banking system, introduced in 1919, part of an active land policy with the overall objective to develop commercial family farms. From 1941 onwards the land consolidation law was applied in the whole country. The law has been amended several times and already in 1949, the commission and judgment system, which is still in force, was introduced.

3.3.1 AGRICULTURAL DEVELOPMENT THROUGH LAND CONSOLIDATION

After WWII, land consolidation was in Denmark used as an instrument for agricultural development as it was the case in most other countries in Western Europe.²⁸ The objectives of most of the projects were to reduce fragmentation of land ownership and facilitate increase of agricultural holdings. The *law on land reclamation* was adopted in 1940 providing extensive state funding for land reclamation projects. Already from the 1940s, land consolidation was used in connection with large land reclamation projects where shallow lakes and meadows were drained and turned into arable land or intensive grassland. This continued with heavy state subsidies until the end of the 1960s (see Box 3.1). Land consolidation was part of an active land policy in the decades after WWII and also, together with land banking (section 3.4.2), applied in connection with the establishment of state supported family farms, often with a size of 7 – 15 ha depending on soil quality.^{29 30} The state acquired land from manors and larger estates and distributed the land in the process that established the new family farms. In the southern part of Jutland, land confiscated from the German state after the reunification in 1920 and again after WWII was included in the process as well.

From 1950 and onwards an enormous structural development has taken place in Danish agriculture despite the active land policy and establishment of new family farms which continued until the 1960s. In 1950, there were around 200,000 farms with an average size of around 15 ha. In 1990, this was reduced to around 90,000 farms with an average of 35 ha. In 2011, the number of farms had further dropped to around 40,000 with an average of 63 ha.³¹ Most of this structural development took place through individual transactions in the rural land market. Purchase of

²⁷ Klæsøe, L. (1997): *Jordfordelingsloven* (In Danish) (Law on Land consolidation). In Jørgensen, C. et al. (Edt.). *Jord lovgivning* (in Danish) (Land legislation). GADJura, p. 803.

²⁸ Jacoby, E. (1959): *Land Consolidation in Europe*. International Institute for Land Reclamation and Improvement, Wageningen.

²⁹ Priemé, J. (1997): *Fra jord til bord – Strukturdirektoratets historie*. Strukturdirektoratet.

³⁰ Haldrup, N. O. (2004): *Danish Land Consolidation – The interaction between land consolidation and land banking*. Paper for FAO land banking workshop in Tonder, Denmark, March 2004.

³¹ Ministry of Food, Agriculture and Fisheries (2013): *Draft Danish Rural Development Programme for 2014-2020* (in Danish), p. 16.

additional agricultural land in the local land market often leads to increased land fragmentation as the land purchased is often not adjacent to the land already belonging to the agricultural holding. The land consolidation instrument was in the decades after WWII used to reduce land fragmentation and to facilitate the structural development.

Already in 1950, a land consolidation unit was established under the Ministry of Agriculture. The ministry has since then been responsible for the management of the national land consolidation programme. Also in 1950, 11 *land consolidation commissions* were established in line with the provisions of the 1949-law, each commission covering a certain geographical area.³² It was and still is the task of the commissions to approve the projects. The number of commissions and also the composition of the commissions have changed over the years. The commission has, however, always been chaired by a district judge. The commission was also given the authority to take decision on land ownership in cases where the land register was not updated or mistakes had occurred.

Participation in land consolidation projects in Denmark has always been voluntary for the involved landowners. The *law on land consolidation* had, however, until the amendment of the law in 2005 provisions that could be used for compulsory exchange of agricultural land. The provisions were, however, not operational and only used very few times during the decades.

An obvious consequence of the voluntary approach has always been that not all landowners with agricultural land in the project area are participating in the project but only the land parcels where a specific agreement can be made between the owners. This is completely different from e.g. the classical German and Dutch compulsory approach where all land in the project area normally is included in the project when the majority of the landowners agree with the implementation of the project. In comparison, the classical land consolidation in Denmark can be described as a chain of land transactions implemented after a re-allotment planning that is seeking to involve as many landowners as possible.

An expert (land consolidation planner), often a land surveyor, is facilitating the negotiation process between the involved landowners and farmers. The land consolidation planner can come from both the Land Consolidation Unit of the ministry, today the Ministry of Food, Agriculture and Fisheries, or from private surveying and consulting companies. In Denmark, private surveying companies have a monopoly of cadastral surveying and they are always dealing with the

³² Sunesen, A. (1987): *Jordfordelingslovens administration* (in Danish) (The administration of the Law on Land Consolidation). Landinspektøren. 33. bd., p. 510.

surveying and preparation of the registration of the new ownership, also in land consolidation projects.

	1950 - 1959	1960 - 1969	1970 - 1979	1950 - 1979
Number of land consolidation projects initiated	515	350	212	1,077
Number of land consolidation projects approved by land consolidation commission	239	303	380	922
Area in approved land consolidation projects (ha)	17,666 ha	29,195 ha	24,540 ha	71,401 ha
Area in average in approved project	74 ha	96 ha	65 ha	77 ha

Table 3.1: Land consolidation activity 1950 – 1979. Source: After Sunesen 1987.³³

	1980 - 1989	1950 - 1989
Number of land consolidation projects approved by land consolidation commission	212	1,234
Area in approved land consolidation projects (ha)	46,948 ha	118,349 ha
Number of agricultural holdings participating in land consolidation	10,078	-
Area in average project	221 ha	-
Average number of participating agricultural holdings	48	-

Table 3.2: Land consolidation activity 1950 – 1989. Source: Authors calculations based on Landbrugsministeriet (Ministry of Agriculture) 1982, annual reports from Jordbrugsdirektoratet 1980-89 and Sunesen 1987.

In total during 1950 – 1979, 1,077 land consolidation projects were initiated, 922 projects were approved by the land consolidation commissions and 71,401 ha changed owner as part of a land consolidation project in the period. The land consolidation activity during the three decades is displayed in table 3.1. During the 1950s, many of the projects initiated towards the end of the decade were approved in the early 1960s. This explains the big difference between initiated and approved projects in the 1950s. During the 1970s, the available funding was reduced which

³³ Sunesen, A. (1987): *Jordfordelingslovens administration* (in Danish) (The administration of the Law on Land Consolidation). Landinspektøren. 33. bd.

resulted in initiation of fewer new projects compared to the earlier decades. Many of the projects approved in the 1970 were initiated towards the end of the 1960s before the budget reduction. This explains why more projects were approved than projects initiated in the 1970s. In all three decades a few of the projects initiated were given up and hence never approved. No available data exists on this but it is estimated that 5-10 % of the initiated projects were for various reasons never finalized.

	1990 - 1999	2000 - 2009	2010 - 2013	1950 - 2013
Total number of land consolidation projects approved by land consolidation commission	208	189	38	1,669
Total area in approved land consolidation projects (ha)	39,182 ha	35,121 ha	4,592 ha	197,244 ha
Total number of agricultural holdings participating in land consolidation	6,654	5,724	4,592	197,244
Area in average project	188 ha	186 ha	121 ha	118 ha
Average number of participating agricultural holdings	32	30	20	-
Number of approved land consolidation projects with agricultural development objective	185	122	0	-
Total area in approved land consolidation projects with agricultural development objective	33,635 ha	22,309 ha	0 ha	-
Total number of agricultural holdings participating in land consolidation with agricultural development	5,855	3,711	0	-
Number of approved land consolidation projects with public objective (nature restoration, afforestation, infrastructure etc.)	23	67	38	-
Total area in approved land consolidation projects with public objective	5,547 ha	12,812 ha	4,592 ha	-
Total number of agricultural holdings participating in land consolidation with public objective	799	2013	773	-

Table 3.3: Land consolidation activity 1990 – 2013. Source: Authors calculations based on unpublished data from Ministry of Food, Agriculture and Fisheries 2014.

During the 1980s, the land consolidation activity increased again (table 3.2). The number of approved projects remained the same as in the 1970s (212 in each decade) but the average size of projects increased. In the 1980s, the average area participating in one project was 221 ha where it was only 77 ha in average for the period 1950 – 1979.

Land consolidation projects with the traditional objective of agricultural development continued until 2006, from 1990 in parallel with public initiated land consolidation projects implemented in connection with e.g. nature restoration and afforestation projects (explained in section 3.4).

During the 1990s, 185 traditional projects were approved involving 5,855 agricultural holdings and the change of ownership of 33,635 ha (table 3.3). In the 1990s, 185 of in total 208 approved projects, as many as 89 % of all land consolidation projects, had the traditional objective of agricultural development while 11 % of the projects were implemented in connection with public initiated projects to improve or restore nature and environmental conditions. During 2000-09, in total 122 traditional projects were approved involving 3,711 agricultural holdings and the change of ownership of 22,309 ha before the last of the traditional projects were finalized in 2009. In the 2000s, 122 of in total 189 approved projects (65% of all projects) had the traditional objective of agricultural development.

In 2003, land consolidation was included as a measure under the Rural Development Programme 2000-2006. The reason was to benefit from the EU co-funding.³⁴ During 2004-2009, in total 36 approved land consolidation projects were supported with 1,408 participating agricultural holdings and 7,370 ha changing owner.³⁵ In these projects, it was a conditions for support under the RDP that the projects had elements of improving the conditions for nature and environment, e.g. through consolidation of parcels in meadows with the purpose to make grazing more profitable and ensure that the meadows were not abandoned and subsequently overgrown by bushes.

The traditional land consolidation projects during 1950 – 2006 with the objectives to reduce land fragmentation and increase the sizes of the participating agricultural holdings were not geographically equally distributed over the country. Most of the projects were implemented in south Jutland, in north Jutland and to a lesser extent also in west Jutland. The need for land consolidation was higher in

³⁴ FAO (2008): *Opportunities to mainstream land consolidation in rural development programmes of the European Union*. FAO Land Tenure Policy Series 2, p. 14-21.

³⁵ Orbicon and Capacent-Epinion (2008): *Slutevaluering af det danske landdistriktsprogram 2000-2006 – delrapport vedr. Jordfordeling* (in Danish) (Ex-post evaluation of the Danish Rural Development Programme 2000-2006 – Subreport on Land Consolidation).

these regions, i.e. higher level of land fragmentation, and also knowledge of the benefits of the instrument was higher among landowners and farmers from successful projects in neighboring communities. The “land consolidation regions” also had private surveying companies specialized in land consolidation. This was not the case in east Denmark where only very few projects were carried out.³⁶ In this part of the country, the issue of land fragmentation has traditionally been of less importance because of better implemented land reforms in the decades after 1780 but also because the structural development since 1950 has been less significant in these regions compared to west Denmark where it has been driven by a high concentration of dairy and pig farms with need for additional land when increasing the meat and dairy production.

From the 1960s, land consolidation was increasingly applied in connection with construction of new motorways and highways.³⁷ Infrastructure land consolidation has been applied in two different approaches. One, following the procedures of the *land consolidation law* (see section 3.2) where the public agency responsible for the road construction project participates in the land consolidation project like the private landowners and purchases the “road parcel” as an outcome of the re-allotment planning. The private landowners have the opportunity to be compensated in land instead of in money and are hence allowed to continue their farming activities. Landowners who refuse to participate in the voluntary land consolidation process can be expropriated by the road authority according to the *law on public roads* (roads administrated by municipalities) or the *law on state expropriation* (roads administrated by the Ministry of Transport). In the second approach, normally used in connection with new state roads, a re-allotment plan is negotiated with the involved landowners. The outcome of the process is a draft re-allotment plan which is then integrated with the expropriation process in the *law on state expropriation*. After negotiations with the landowner’s, the State Expropriation Commission takes decision on the full or partial implementation of the land consolidation proposal. These projects are not included in the figures in tables 3.1-3.3.

As a result of the land consolidation instrument being applied in connection with construction of new motorways and highways, in both approaches, the public agency responsible for the road construction project (Ministry of Transport or municipality) will often save money for compensations of the landowners compared to traditional expropriations as many of the disadvantages imposed on

³⁶ Sørensen, E.M. (1987a): *Lokal landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab* (in Danish) (Local agricultural planning – a study of the Danish land consolidation practise 1979-84 and regarding changes in agriculture and landscape). Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21, p. 43-44.

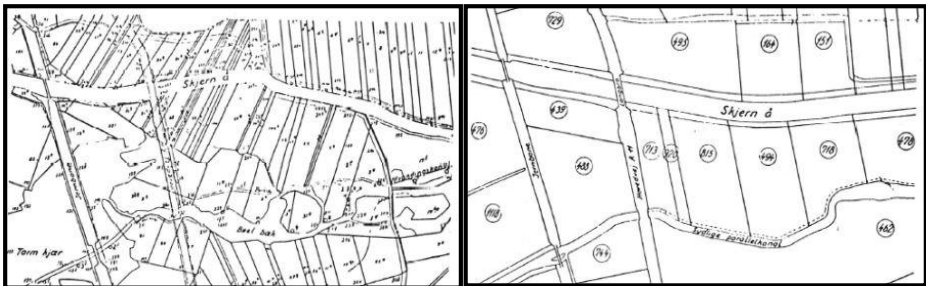
³⁷ Østergaard, F. (1987): *Jordfordeling ved vejanlæg* (in Danish) (Land consolidation in connection with road projects). Landinspektøren. 33. bd., 537-543.

the agricultural holdings by the road project disappear through the land consolidation exercise.

BOX 3.1: Skjern River Land Reclamation 1962 – 1969

The Skjern River Land Reclamation project was the last of the big land reclamation project. The traditional agriculture in the river valley was to provide feed for livestock all year round, fresh grass in the summer and hay for the winter. Floods were always a danger after heavy rainfall and sometimes the year's supply of winter feed was lost. The local communities tried for centuries to regulate the river through the construction of drainage channels, dikes and attempts to straighten and clean the water courses in a number of small projects (Ministry of Environment 2005).

After WWII, increased mechanization and new production patterns reduced the traditional need for production of feed to livestock in the river valley and grain production had become more profitable than cattle farming. In 1961, the Ministry of Agriculture approved a large land reclamation project which was to turn 4,000 ha of meadows and wetlands into arable land through construction of a new straight river, channels, dikes and pumping stations. The project included the lower section of the river from Borris to the Ringkoebing Fjord, almost 20 km of the river (Ministry of Environment 2005). A large minority of the landowners were against the land reclamation project.



*Part of cadaster map before land reclamation. Part of cadaster map after land reclamation
Source: Hartmann 1981, 95.*

Voluntary land consolidation was implemented in connection with the project in four sub-areas. The land consolidation was implemented on 1 October 1969 where the landowners took possession of their new land. In total 980 landowners participated in the process and 4,440 ha changed owner. In the project area, there were 840 landowners before the project. After the project this was reduced to 525 as more than 300 landowners used the land consolidation as an opportunity to sell their land in the project area, often small parcels. The number of parcels in the project area was in total reduced by a factor 4 (Hartmann 1981).

3.3.2 THE LAND CONSOLIDATION PROCESS

The formal beginning of a land consolidation project is the organization of a public meeting in the project area, the so-called “initial public meeting”. The meeting is organized by the Land Consolidation Unit of the Ministry of Food, Agriculture and Fisheries, often in cooperation with the initiators of the projects. Earlier this was often the local farmers and their associations. Now-a-days this is often the local municipality or the Nature Agency under the Ministry of Environment. The landowners are invited to the meeting by letter or announcement in local newspapers.

During the meeting the participants are informed about the land consolidation process and all procedures from beginning of the re-allotment planning till the final registration of the new land ownership. The “date of implementation” where land ownership will change is also agreed upon at the meeting. This is the same date for all land transactions included in the re-allotment plan. Before the meeting, the assigned land consolidation planner, either a public employed land professional from the ministry or from a private company, has prepared an ownership map of all agricultural land in the project area (called Plan 0). Furthermore, the participants in the meeting elect a *local committee of stakeholders* to represent the general interests of participating landowners and farmers.³⁸ The Danish land consolidation process is illustrated in figure 3.2.

In the first stage of the project, the land consolidation planner³⁹ meets individually with all the registered landowners in the project area. The purpose of this so-called “round of wishes” is to discuss the project with each stakeholder individually, inform them in details about the process and most important to discuss with them about their interest in and wishes for the project, i.e. if they want to participate, which parcels they want to sell, exchange or purchase from others. At this initial stage of the re-allotment planning, it is important to group the interested stakeholders in categories such as i) potential sellers, ii) those who want to exchange to land of similar value and iii) those who want to purchase additional land. Based on these initial negotiations with the landowners, the planner can assess the volume of the project (e.g. number of participants and area to change owner in the project), as well as the land mobility in the area and the balance between potential sellers and buyers.⁴⁰

³⁸ Elmstrøm, H. and Nielsen, B. (1987): *Jordfordeling i en almindelig landinspektørforretning* (in Danish) (Land consolidation in an average private surveying company). Landinspektøren. 33. bd., 530-536.

³⁹ In larger projects, the re-allotment planning is often conducted by two planners.

⁴⁰ Hartvigsen, M. (2014): *Land Mobility in a Central and Eastern European Land Consolidation Context*. Nordic Journal of Surveying and Real Estate Research. Volume 10 Number 1/2014, 23-46.

3. LAND CONSOLIDATION AND LAND BANKING IN DENMARK – TRADITION, MULTI-PURPOSE AND PERSPECTIVES

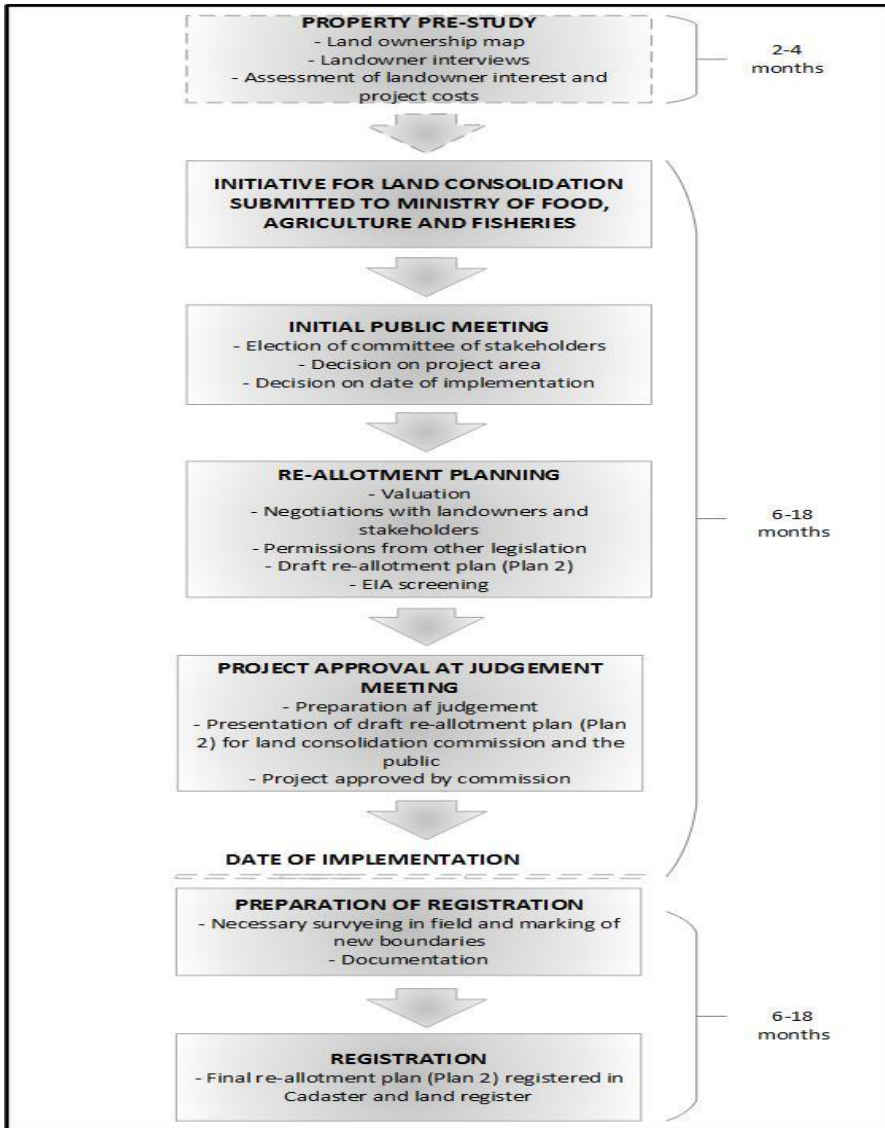


Figure 3.2: The Danish land consolidation process.

The next step is the valuation and to establish the market price in the area. Different methods have been used over the years to establish the value of the agricultural land in the project area. The classical approach is, however, to combine relative value with the market price. The valuation is carried out in the field by the local committee of stakeholders together with the land consolidation planner and one or two local agronomists with specific knowledge of soil quality

and production value of the agricultural land in the project area. Each parcel (and sometimes parts of parcels) is allocated a relative value where the best land in the area is given the relative value 100, the second best 95 etc. Afterwards, the planner produces a valuation map based on the notes from the field. Subsequently, the planner reaches an agreement with the committee and the agronomists about the market value of the best land in the area (relative value 100) and the market value of all other parcels can be found by simple multiplication. A number of issues are important when finding the relative value, such as soil quality, shape of parcel, size of parcel, location, drainage conditions etc.

After this preparation the re-allotment planning can really begin. First the planner will build up a “land pool”. The available land pool consists of agricultural land parcels in the project area which are available for the voluntary re-allotment planning. The land pool can come from landowners who in the land consolidation process decide to sell all their agricultural land or part of it while gradually reducing their production as they become older. The land pool can also come from land parcels which have been marginalized based on the owner’s production system (e.g. meadows not used by pig farmers). Available public owned land, e.g. from the State Land Bank (see section 3.4.2), can as well contribute to the land pool. As agreements are reached with the sellers, the planner signs with these landowners a “land consolidation agreement” which legally is an offer from the landowner to sell the specified land on price and conditions stated in the document.

The planner can now begin the exchanges and the challenge is to sustain the land mobility for as long as possible in order to allow as many stakeholders to benefit from the project as possible. In practice it is often an iterative process of reaching agreement with sellers and those who want to exchange as some sellers will only decide about selling towards the end of the process. The re-allotment planning is always a balance between on one side signing agreement which fix the outcome and on the other side keeping the options open until the best possible solutions are found. Each land consolidation planner has to find his or her own style and the outcome of the project is very much dependent of the knowledge, experience and also the personal skills of the planner. The last stage in the re-allotment planning is to sell an eventual surplus of land to buyers who will increase the size of their agricultural holding. Buyers, defined as those buying land of a higher value than the value of the land they sell, are requested to submit to the planner a bank guarantee for the payments.

3. LAND CONSOLIDATION AND LAND BANKING IN DENMARK – TRADITION, MULTI-PURPOSE AND PERSPECTIVES

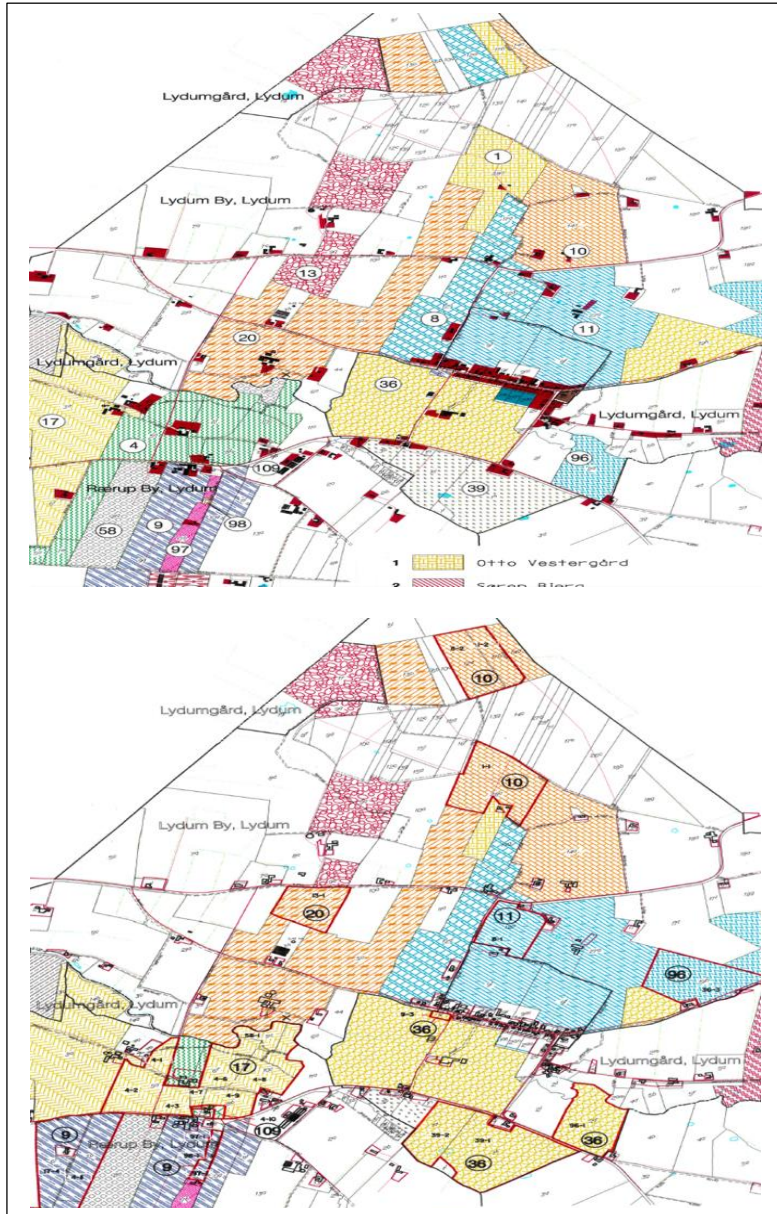


Figure 3.3: Land consolidation with an agricultural development objective. Part of “Lydum - Nr. Nebel” land consolidation project. Land ownership before project (Plan 1) above and after project (Plan 2) below. The project was approved and implemented in 1998. Each agricultural holding has a unique number and signature. Parcels that change owner are marked with a red frame. Notice for example the consolidation and enlargement of agricultural holdings with no. 10, 11, 20 and 36. The white parcels belong to those landowners who have chosen not to participate in the project.

Three months before the date of implementation, which was agreed at the initial public meeting, the planner has to submit the draft re-allotment plan to the Land Consolidation Unit of the Ministry of Food, Agriculture and Fisheries. The submission consists of a map showing land ownership of the participating agricultural holdings before the project (called Plan 1) and a map of the new ownership situation (called Plan 2), legally binding offers from each of the participants, bank guarantees, decision on screening for environmental impact (EIA) and necessary permissions according to other legislation. Figure 3.3 shows an example of part of Plan 1 and Plan 2 in “Lydum – Nr. Nebel” land consolidation project.

Then the Land Consolidation Unit of the ministry as secretariat for the land consolidation commission prepares the *judgment* and checks that everything is settled and organizes a second public meeting. During the meeting, the so-called “judgment meeting”, the land consolidation planner presents the project to the commission and to the public. After the presentation, the public and the commission may ask questions and have the opportunity to complain if they feel something has not been fair. The number of complaints is normally limited due to the voluntary nature of the projects.

The main task of the land consolidation commission is to approve the project by first approving the negotiated re-allotment plan (Plan 2) and second to ensure a simultaneous implementation, transfer of money between buyers and sellers, handling mortgage in relation to participating agricultural holdings and finally to authorize the Land Consolidation Unit to contract a private surveying company for the necessary cadastral surveying and finally to have the final re-allotment plan registered in the cadastre and the land register.

The normal duration from the initial meeting to the registration of the re-allotment plan is typically 2-4 years including a planning and negotiation process of 1 -1½ year. After the date of implementation, the cadastral surveying and final registration is technical work not involving the participating landowners. They are informed when the final registration has taken place.

All costs involved with the implementation of land consolidation projects were covered by the State budget until 2002 and from 2003 with co-funding from the EU under the Rural Development Programmes.

3.3.3 MULTI-PURPOSE IN TRADITIONAL LAND CONSOLIDATION PROJECTS

Multi-purpose was, as mentioned in the introduction, explicitly included in the Danish land consolidation tradition through the amendment of the *land consolidation law* in 1990. Thus, it cannot be expected that projects before 1990 with the traditional objective of agricultural development would have multi-

purpose. A study of the Danish land consolidation practice during the period 1979 – 1984 revealed, however, that several projects implemented in the period had multiple purposes besides the traditional objectives.⁴¹ These elements included smaller initiatives and projects focused on improvement of nature and environmental conditions in the land consolidation area. This proves very well that land consolidation by nature is multi-functional with the opportunity to pursue different objectives in the same land consolidation project.

The application of land consolidation in connection with land reclamation from the 1940s and road construction projects from the 1960s (discussed in section 3.3.1) are other examples of multi-purpose in the traditional land consolidation projects even though still within the overall objective of agricultural development.

As it was explained in section 3.3.1, land consolidation was in 2003 included as a measure under the Rural Development Programme 2000-2006 (RDP). In these projects, it was a condition for support under the RDP that the projects had elements of improving the conditions for nature and environment in addition to the traditional objectives of reducing land fragmentation and facilitation of enlargement of production farms. This attempt of increasing the multi-functionality of the projects was, however, not very successful as the focus continued to be on the traditional objectives.⁴² The experience was also that it was difficult to secure funding for the additional project elements not related to agricultural development as the funding of the land consolidation projects only included funding of the re-allotment planning and the implementation and registration of the approved re-allotment plan and not of any construction works.

3.4 NATURE RESTORATION AND IMPROVED ENVIRONMENTAL CONDITIONS THROUGH LAND CONSOLIDATION

From the middle of the 1980s, an increasing political and public attention on nature and environment occurred after decades with loss of biodiversity and general environmental degradation. Specific problems with massive fish death in the coastal aquatic environment caused by emission of nitrate and phosphorus, especially from intensive agricultural production but also by wastewater from the

⁴¹ Sørensen, E.M. (1987a): *Lokal landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab* (in Danish) (Local agricultural planning – a study of the Danish land consolidation practise 1979-84 and regarding changes in agriculture and landscape). Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21, p. 163-166.

⁴² Orbicon and Capacent-Epinion (2008): *Slutevaluering af det danske landdistriktsprogram 2000-2006 – delrapport vedr. Jordfordeling* (in Danish) (Ex-post evaluation of the Danish Rural Development Programme 2000-2006 – Subreport on Land Consolidation), p. 38.

cities, triggered a wave of nature restoration which is still on-going in Denmark today. The *first aquatic environment action plan*⁴³ was adopted by the Danish Parliament in 1987 with the aim of reducing the emission of nitrate and phosphorus to the water environment. This has since been followed up by a number of action plans and programmes.

3.4.1 NATURE RESTORATION AND AFFORESTATION

The *law on nature management* (today merged with the *law on nature protection*) was adopted by the Parliament in 1989 and followed up with earmarked funds on the state budget for nature restoration and afforestation projects. The basis for implementation of these nature projects was the voluntary participation of the involved landowners.

The land consolidation instrument was in two pilot projects (“Fjand Meadows” and “Legind Lake” restoration) during the late 1980s introduced as a main instrument for reaching agreements with the involved landowners. The pilots were implemented in cooperation between the Nature Agency under the Ministry of Environment and the Land Consolidation Unit under Ministry of Food, Agriculture and Fisheries.^{44 45} The pilots were successful and resulted in a more permanent cooperation between the two ministries where the Land Consolidation Unit assisted the Nature Agency with land consolidation in 23 nature restoration projects between 1990 and 1998 (table 3.3). The approach was that the Ministry of Environment offered to purchase the private land in the project area, either for the market price in money or in exchange with other land. In both cases the landowners participated in the land consolidation project and the ministry purchased the land through the land consolidation project as well. A flagship project was the “Skjern River restoration project” which was implemented during 1987 – 2003 and through seven land consolidation projects (see Box 3.2). The costs of these land consolidation projects with the objective to restore nature were covered from the annual budgets of the Ministry of Environment.

The new approach was inspired partly by a development in land consolidation practice throughout the 1980s where elements of nature restoration were included in traditional land consolidation projects with an objective of agricultural development and partly by new research drawing on Dutch experiences with land consolidation in relation to nature restoration, e.g. the 1984 Dutch land

⁴³ In Danish: Vandmiljøplan I.

⁴⁴ Østergaard, F. (1989): *Naturgenopretning og jordfordeling* (in Danish) (Nature restoration and land consolidation). Landinspektøren. 34. bd., 619-622.

⁴⁵ Hartvigsen, M. and Østergaard, F. (1993): *Erfaring med jordfordeling i forbindelse med større naturgenopretningsprojekter* (in Danish) (Experiences with land consolidation in connection with larger nature restoration projects). Landinspektøren. 36. bd., 560-563.

consolidation law.⁴⁶ ⁴⁷ An inter-governmental committee proposed in 1988 the application of the land consolidation instrument in connection with nature projects.⁴⁸ The development of practice together with the proposals of the inter-governmental committee led in 1990, as discussed, to the explicit inclusion of multi-purpose of the instrument in the preamble of the Danish *land consolidation law*.

The process in land consolidation projects implemented in connection with nature and environmental projects is similar to those described above (section 3.3.2) with one important exception. In projects with a nature restoration objective, the initial contact and negotiations with the landowners with land in the nature project area is usually carried out as a “property pre-study” which is a separate exercise before the land consolidation project is launched. Since the nature projects in principle are voluntary for the landowners, it is important at an early stage to assess the interest of the landowners. With a few additions, the landowner contact in the property pre-study is similar to the “round of wishes” in the classical land consolidation process.

In 1998, the Parliament adopted the *second aquatic environment action plan*⁴⁹. The plan was part of the implementation of the Nitrates Directive of the European Commission.⁵⁰ Among the tools for the reduction of emission of nitrate and phosphorus to the water environment was the establishment of 16,000 ha new wetlands and nature restoration. This target figure was later reduced to 10,000 ha. The projects were implemented in cooperation between the Land Consolidation Unit of the Ministry of Food, Agriculture and Fisheries, the Nature Agency of the Ministry of Environment and the County Administrations with the latter being responsible for the direct project implementation. The Land Consolidation Unit provided land consolidation experts funded over the annual state budget. This time the approach was a bit different from the earlier nature restoration projects as continued private land ownership was allowed in the nature area. The landowners were compensated for the loss in market value and a servitude defining restrictions on the land use was registered on the property in the land

⁴⁶ Sørensen, E.M. (1987a): *Lokal landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab* (in Danish) (Local agricultural planning – a study of the Danish land consolidation practise 1979-84 and regarding changes in agriculture and landscape). Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21.

⁴⁷ Sørensen, E.M. (1987b): *Jordfordeling i et udviklingsperspektiv* (in Danish) (Land consolidation in a development perspective). Landinspektøren. 33. bd., 550-561.

⁴⁸ Landbrugsministeriet (Ministry of Agriculture) (1988): *Struktur- og Planudvalget – 2. Delbetænkning* (Betænkning nr. 1145) (in Danish), p. 109-131.

⁴⁹ In Danish: Vandmiljøplan II (VMPII).

⁵⁰ Munk Mouritsen, A. K. (2004): *Property Restructuring in Denmark – a Method for Achieving the Objectives of Environmental Protection and Cultural Heritage*. Nordic Journal of Surveying and Real Estate Research, no. 1, 2004, 44-56.

register (e.g. the land was taken out of normal production with only grazing and hay production allowed, ban on use of fertilizers and pesticides etc.).

The landowners were offered various ways of compensation and entering into an agreement on the project implementation: i) they could sell their land (often in a land consolidation project), ii) they could exchange their land in the project area with other land outside the restricted area, iii) they could exchange with land in the project area (purchased at reduced price reflecting the value after the implementation of the nature project), iv) they could maintain their land and receive a compensation of the loss in market value or v) they could maintain their land and use the compensation to purchase additional land inside or outside the project area. In figure 3.4 is displayed an example of a Plan 1 (land ownership before the land consolidation project) in “Rodding Lake Restoration Project”, a small wetlands project implemented under the *second aquatic environment action plan*. Plan 2 (landownership after the project) from the same land consolidation project is displayed in figure 3.5. The lake was physically restored in 2004.

During the 1990s, in total 23 land consolidation projects were approved in connection with public initiated nature and environmental projects (table 3.3). In total 799 agricultural holdings participated and 5,547 ha changed owner as part of the projects (table 3.3).

In 2007, a new government programme, the *Specific Water and Nature Measures*⁵¹, began with 45 project opportunities identified in 11 geographical focus areas. Again land consolidation was an important instrument for the implementation of the projects. The concept was the same as applied for the projects under the *second aquatic environment action plan* with the modification that the re-allotment planning was not monopolized by the ministry but also open for private companies through a tendering process. The political intention was to implement the projects during 2007-2009 including the time for the land consolidation works. This was, however, not possible and a few of these projects are still on-going (2014).

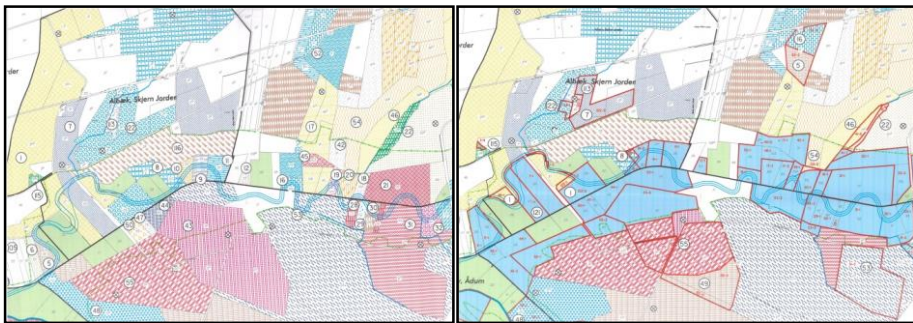
During the 2000s, in total 67 land consolidation projects were approved in connection with public initiated nature and environmental projects (table 3.3). In total 2,013 agricultural holdings participated and 12,812 ha changed owner as part of the projects.

⁵¹ In Danish: Den særlige vand- og naturindsats – Miljømilliarden.

BOX 3.2: Skjern River Nature Restoration Project 1987 – 2003

The Skjern River Land Reclamation project (Box 3.1) was in the beginning successful from the perspective of agricultural development. However, some serious side effects for nature and environment occurred soon after its finalization including for the environment in Ringkøbing Fjord caused by leaching of nitrate and ochre. The land reclamation project had also resulted in loss of biodiversity in the river valley. Soon, also problems for the agricultural utilization of the river valley began. Drainage and cultivation of the peat-rich soil resulted in sinking of the terrain – often with more than one meter. A new drainage project was needed if cultivation of the fields was to continue (Ministry of Environment 2005). In 1987, only 19 years after the finalization of the land reclamation project, the Danish Parliament took the decision to restore the natural environment in the lower section of the river valley.

Land acquisition and land consolidation began in 1991. The initial plan was to carry out land consolidation in three stages during 1991-94, first in the Western part of the river, second in the Eastern part and finally a third stage to finalize everything. The Ministry of Environment was responsible for the nature restoration project and the Ministry of Food, Agriculture and Fisheries for the land consolidation works. Most of the local landowners, farmers and their associations were in the beginning very much against the restoration project, which they felt was decided by politicians and technocrats in the capital without understanding of the local situation.



Landownership (part of Plan 1) before final stage of land consolidation ("Borris") implemented 1 April 2000. Landownership (part of Plan 2) after final stage of land consolidation ("Borris"). Blue and green parcels state owned.

The land consolidation was implemented in seven stages instead of the planned three. In total, 358 agricultural holdings participated in the voluntary land consolidation and 2,977 ha changed owner. Most of the land consolidation works were carried out without clear knowledge of the technical restoration projects (e.g. exactly which parcels would be included and which would not). The technical project was only approved in July 1998 by the Parliament adoption of the *law on Skjern River Nature Restoration project*. The restoration project included 2,200 ha of the 4,000 ha that were drained in the 1960s. In addition the law gave specific access for the Ministry of Environment to expropriate private agricultural land if voluntary agreements could not be reached. However, only around 20 ha were actually expropriated and voluntary solutions with the landowners were reached for more than 99% of the project area. Many of the landowners benefitted highly from the land consolidation solutions as they were often able to exchange relative small parcels with drainage problems, sometimes more than 10 km from the homestead with arable land without drainage problems much closer to the homestead. Often they also had the opportunity to purchase additional land. Many landowners used the opportunity to sell their parcels in the river valley. The project contributed to reduction of land fragmentation and enlargement of farm sizes at the same time as the nature restoration project took 2,200 ha out of agricultural production.



Figure 3.4: Land consolidation with the objective of nature restoration (wetlands project). “Rodding Lake” restoration land consolidation implemented under the second aquatic environment action plan. Land ownership before the project (Plan 1). Technical investigations showed that the area within the green frame would be affected by the restoration project. The two land parcels marked as serial number 9 were acquired by the State Land Bank after the property pre-study and before the launch of the land consolidation project.

Finally in 2010, the Parliament adopted the *Green Growth Programme* under which a number of initiatives are planned during 2010 - 2015 including the implementation of additional up to 13,000 ha of new wetlands under the project management of the municipalities and 1,600 ha managed by the Nature Agency of the Ministry of Environment. The new programme is directly linked to the implementation of the EC Water Framework Directive. The organizational and institutional set-up is almost the same as during the *second aquatic environment action plan*. Ministry of Environment is overall responsible for the implementation of the programme and the Land Consolidation Unit under the Ministry of Food, Agriculture and Fisheries responsible for land consolidation and land banking in connection with the projects. The funding of both the wetlands projects and of the connected land consolidation works were in 2010 included as a measure under the RDP.

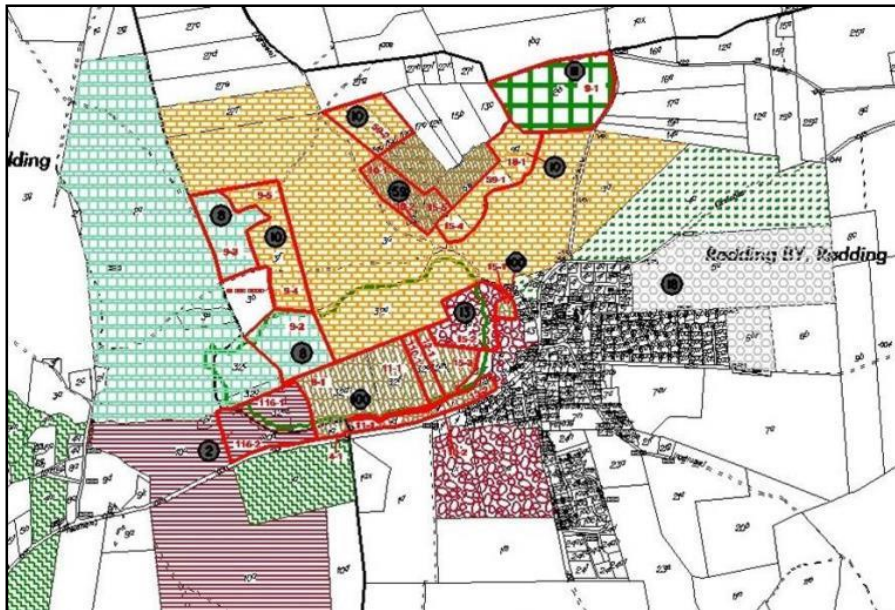


Figure 3.5: Land consolidation with the objective of nature restoration (wetlands project). “Rodding Lake” restoration land consolidation. Land ownership after the project (Plan 2). Parcels with red frame change owner as a result of the planning process. As part of the agreement with the private landowners they accepted that the municipality had the right to construct a path around the restored lake. The parcels acquired by the State Land Bank were sold again to private landowners in the land consolidation project.

In the first stage of the projects, the authority responsible for the project implementation, respectively the municipalities and the Nature Agency of the Ministry of Environment apply for funding of i) a technical and biological pre-study and ii) a property pre-study. Most these pre-studies are carried out by private consulting companies. During the property pre-study, the first contact is taken with the landowners affected by the planned change of land use, often from arable land or grazing meadows to lake, swamp or wet meadows. Outcome of the property pre-study is an assessment of the interest of the landowners, the need for land consolidation and an estimate of costs of the compensation to the landowners. The support of the landowners is absolutely essential since their participation in the projects to a large extent is voluntary.⁵² Normally, the procedure in the on-going wetlands projects is that the property pre-study is carried out by a private consultant and the subsequent land consolidation negotiated by a staff member of the Land Consolidation Unit of the ministry. As

⁵² According to article 60 in the *law on nature protection*, the project owner (ministry or municipality) can expropriate one or a few parcels in the project area when the large majority of landowners voluntary have agreed with the implementation of the project. The extent of the article has so far not been defined by the courts.

the property pre-study is leading straight into the land consolidation project (figure 3.2), it is not suitable that one team is conducting the pre-study and another handling the land consolidation. The professionals dealing with the property pre-study and the subsequent land consolidation project must build up relations of trust with the landowners and this often difficult process is interrupted when new professionals take over in the middle of the process.

The experiences in Denmark since 2010 with funding of wetlands projects and the connected land consolidation projects under the RDP are that its implementation is difficult in practice. The project holder (municipality or local unit of Ministry of Environment) apply to the Ministry of Food, Agriculture and Fisheries for funding of the projects from the RDP based on the pre-studies and receive an approval with a budget. In principle, the budget cannot be increased during the subsequent implementation of the project and the land consolidation. It is, however, often very difficult beforehand to estimate the exact costs of a wetlands project on the basis of only the technical pre-study and it is also often difficult to estimate the costs of a land consolidation project before a proper land valuation is carried out only based on the initial indications of the landowners. When the land consolidation process begins, experience shows that land consolidation projects may include more agricultural holdings than expected causing increased costs.

Since the amendment of the land consolidation law in 1990, formally allowing land consolidation to be used also as a tool for nature restoration and similar public initiated projects, the land consolidation instrument has each year been used in connection with a relative small number of projects (5-10) where the initiator of the land consolidation project is funding all the costs (property pre-study, re-allotment planning and registration of new land ownership). In recent years initiators of these land consolidation projects have typically been large public owned water supply companies and municipalities seeking to implement afforestation projects on private owned agricultural land with vulnerable ground water resource. In Denmark, almost all drinking water comes from ground water and protection of the ground water resource, i.e. the future drinking water, is essential. Afforestation with broad-leaved trees provides an effective protection of the ground water, also because of termination of the use of fertilizers and pesticides in the afforested area. The private land is either bought up by the state, municipality or water supply company and afforested or the private owners are compensated for planting a private forest. An example of the application of land consolidation in connection with afforestation and ground water protection is provided in Box 3.3.

3. LAND CONSOLIDATION AND LAND BANKING IN DENMARK – TRADITION, MULTI-PURPOSE AND PERSPECTIVES

During the 2010-2013, in total 38 land consolidation projects were approved in connection with public initiated nature and environmental projects (table 3.3). In total 773 agricultural holdings participated and 4,592 ha changed owner as part of the projects.

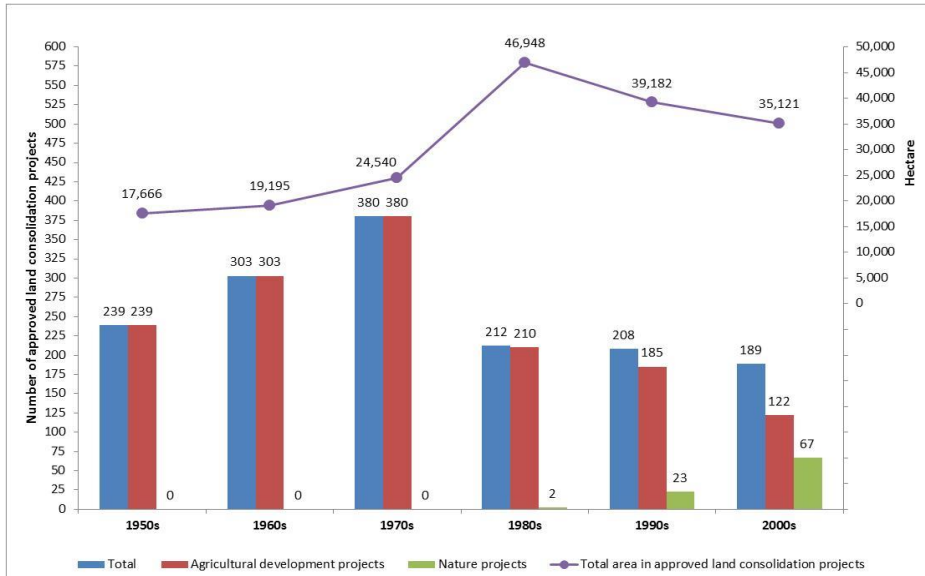


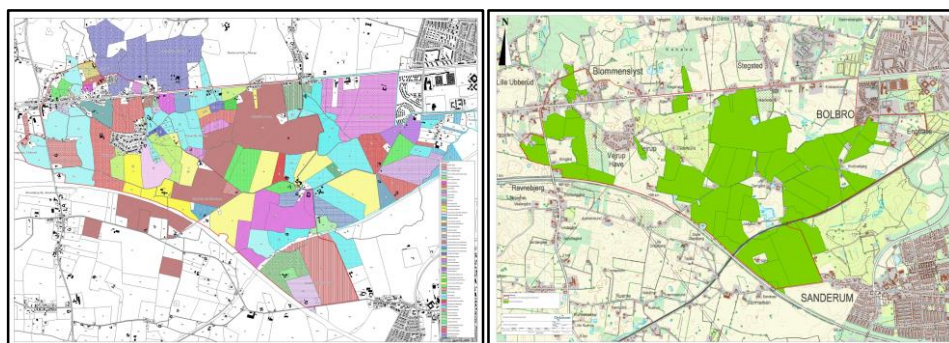
Figure 3.6: Danish land consolidation activity 1950-2010. Source: Table 3.1-3.3.

After the funding of the traditional land consolidation projects with the objective of agricultural development ceased after 2006, the total volume of the Danish land consolidation programme has in the last years more than been reduced by half compared to the previous decades (figure 3.6). Furthermore, the average size of projects (i.e. number of participating agricultural holdings and area changing owner) is significantly reduced in the last years compared to the period 1980-2010 (table 3.3).

BOX 3.3: Elmelund Afforestation and Ground Water Protection Project 2008 - 2010

The drinking water supply for Odense city, the third largest city in Denmark with 172,000 inhabitants (2014), is provided by VandCenter Syd (VCS), the water supply company in Odense, owned by the local municipality. VCS operates seven waterworks supplied from 45 production wells. In total, 9,300 million litres of groundwater is pumped up per year and distributed as drinking water to the consumers (VCS Denmark 2014). The *Elmelund* area is in the catchment area of two of the waterworks supplying 25% of the water for the city.

In 2001, VCS signed a cooperation agreement on afforestation with the Nature Agency of the Ministry of Environment and Odense Municipality. The long term perspective is afforestation of 2,000 ha in the interest area of VCS in areas around Odense. First phase is the afforestation of 650 ha in the Elmelund area west of Odense (Bjerre 2010). During 2001-07, in total 50 ha were purchased from private owners of agricultural land in the area. In 2008, VCS contracted Orbicon, a Danish consultancy company, to speed up the acquisition of private agricultural land for the project.



Landownership in the Elmelund area in 2008. At the beginning of the property pre-study, the 650 ha in the project area was owned by 58 private landowners. *320 ha purchased for afforestation during 2009-2010.*

As a first phase, a property pre-study was conducted in the winter 2008-09 among the 58 private owners of agricultural land in the area. The study showed an interest among the landowners to participate in the project, either by selling their land in the project area to the project or in exchanging their land in the project area for other agricultural land outside the project area with no or little need for groundwater production. It was the assessment based on interviews and negotiations with the landowners that it would be possible to acquire in total around 255 ha of which 120 ha would only be available through exchange agreements (Orbicon, 2009). The property pre-study recommended to carry out a land consolidation project in connection with the afforestation project.

The land consolidation project was planned in less than one year with the date of implementation on 1 February 2010. In total 316 ha was acquired for afforestation in the Elmelund area including two pig farms in full production (respectively 58 ha and 39 ha). After acquisition VCS closed down the pig production.

3.4.2 THE DANISH LAND BANK SYSTEM

The Danish land bank system was established in 1919 as a tool for an active land policy with the main objective to support the establishment of new commercial family farms.⁵³ As explained in section 3.3.1, the state land bank acquired land from manors and larger estates and distributed the land in the process that established the new family farms. During the world crisis in the 1930s, it was possible for the land bank to acquire a considerable amount of land.⁵⁴ In the southern part of Jutland, land confiscated from the German state after the reunification in 1920 and again after WWII was included in the process as well. The establishment of new family farms was discontinued around 1960 which also included the discontinuation of financial instruments such as state loans and state guaranteed loans to the newly established farmers.

The tradition for combining land consolidation with land banking in the traditional land consolidation work during 1950 - 1990 was especially strong in the southern part of Jutland.⁵⁵ Here land consolidation projects were planned some years before they began in the field. During the planning period, the land bank acquired agricultural land from private landowners which was then together with land already owned by the land bank and additional land purchased during the land consolidation project used to increase the land mobility in the project area and subsequently develop better re-allotment plans.⁵⁶ In the rest of the country, most of the traditional land consolidation projects during the period were implemented without the involvement of the land bank and instead building up the land pool during the re-allotment planning.

The available funds in the state land bank were cut to almost nothing in 1990.⁵⁷ Since then, the land banking activities have been funded by earmarked funds in the yearly state budget as part of the funding of the nature restoration programmes such as the *second aquatic environment action plan* and the current *green growth programme*. This means that the land bank currently only can be used for the implementation of the specific projects under these programmes.

⁵³ Jørgensen, C. et al.(Edt.) (1997): *Jord lovgivning* (in Danish) (Land legislation). GADJura, p. 51-52.

⁵⁴ Meier Andersen, N. (2004): *Land Banking and Land Fund Schemes in Denmark*. Paper for FAO land banking workshop in Tonder, Denmark, March 2004.

⁵⁵ Thomsen, I.E. (1995): *Den sønderjyske jordfond* (in Danish) (The South Jutland Land Bank). Landinspektøren, issue 4/1995, 500-504.

⁵⁶ Hartvigsen, M. (2014): *Land Mobility in a Central and Eastern European Land Consolidation Context*. Nordic Journal of Surveying and Real Estate Research. Volume 10 Number 1/2014, 23-46.

⁵⁷ Thomsen, I.E. (1995): *Den sønderjyske jordfond* (in Danish) (The South Jutland Land Bank). Landinspektøren, issue 4/1995, 500-504.

In 2005, the *land acquisition act* was merged with the *land consolidation law* and today the legal provisions regulating the land bank system are included as chapter 3 in the law. The state land bank is managed by the Land Consolidation Unit of the Ministry of Food, Agriculture and Fisheries. The land bank provisions in the land consolidation law allow the ministry to act in the land market as private stakeholders. The land is purchased on normal market conditions. Often, the conducted property re-study (section 3.4.1) indicates which parcels or agricultural holdings it would be suitable for the land bank to acquire as part of the preparation of the land consolidation project in connection with a nature restoration project. Then the representatives of the Land Consolidation Unit negotiate with the identified landowners with an interest in selling land. The legal document is an offer from the landowner to the land bank in which he/she offers to sell the land at the negotiated conditions. When the offer is accepted by the head of the Land Consolidation Unit, an agreement is made. The head of the unit is by the law empowered to act on behalf of the minister.⁵⁸ This construction allows for a fast procedure opposed to the normal procedures when public authorities purchase agricultural land from private owners.

The land purchased by the land bank is often leased out for one or two seasons and then in the land consolidation project sold to private landowners in exchange for their land in the planned nature project area. The selling price goes back in to the land bank and is subsequently used to acquire land for other land consolidations in connection with nature projects. During the implementation of wetlands projects under the *second aquatic environment action plan* during 1999-2008, the state land bank in average acquired 456 ha per year.⁵⁹ Most land was acquired in 2003 with 979 ha and least in 2008 with 127 ha when the programme was about to finalize. The Rodding lake restoration case (figure 3.4 and 3.5) illustrates very well the interaction between land consolidation and land banking in Denmark.

The experiences from 25 years of implementing nature restoration projects on a voluntary basis using the land consolidation and land bank instruments are that both instruments are absolutely essential for reaching voluntary agreements with the affected landowners. Active production farmers affected by planned nature projects will often not be able to sacrifice their land in the project area unless they are offered other land in compensation of at least the same soil quality and location. Sometimes it is possible to acquire land for compensation purposes directly during the re-allotment planning in the land consolidation project but often it takes more time to ensure a level of land mobility in the land consolidation

⁵⁸ Haldrup, N. O. (2004): *Danish Land Consolidation – The interaction between land consolidation and land banking*. Paper for FAO land banking workshop in Tonder, Denmark, March 2004, p. 7-8.

⁵⁹ Unpublished data from Land Condolidation Unit under the Ministry of Food, Agriculture and Fisheries (2014).

area which makes the voluntary re-allotment planning successful in terms of reaching agreements with all landowners affected by the nature project. In such situations it is essential to be able to supplement the land consolidation instrument with land banking.

3.4.3 MULTI-PURPOSE IN CURRENT DANISH LAND CONSOLIDATION PROJECTS

We will now analyze the application of multi-purpose in Danish land consolidation projects after multi-purpose of the land consolidation instrument was included in the preamble of the *land consolidation law* in 1990. In section 3.3, we already concluded that the traditional land consolidation projects, which continued until 2006, only included few other objectives than agricultural development.

The land consolidation projects implemented since 1990 in connection with nature restoration projects under various programmes have all been limited in scope as they could in principle only include land transactions which directly or indirectly contributed to the implementation of the nature project. In this sense the projects are only “open” for participation of the landowners who are either affected directly by the project or may contribute to land consolidation solutions by providing land (through sale or exchange) which is then used to compensate the directly affected landowners. Land consolidation has become a tool for conflict solutions in area related public interventions.⁶⁰

Despite of this basic condition, there are, however, very good examples of land consolidation projects implemented in connection with large nature restoration projects which at the same time have improved the farm structures (through reduction of land fragmentation and enlargement of production farms) and ensured the implementation of the nature project. The land consolidation work in connection with the Skjern River Nature Restoration Project (Box 3.2) is a very good example of this. There are however other good examples of multi-purpose in land consolidation projects under the *second aquatic environment action plan* (e.g. Vilsted Lake restoration, Aarslev Meadow Lake Restoration and Sliv Lake Restoration).⁶¹

In the on-going land consolidation projects under the current *green growth programme*, the funding under the Rural Development Programme is further limiting multi-purpose compared to the earlier projects funded with 100 percent Danish funds. As explained (section 3.4.1), the inflexible budget system, where the budget cannot be increased during the implementation of the nature project and

⁶⁰ Haldrup, N.O. (2011): *Almindelig jordfordeling – igen* (in Danish) (Traditional land consolidation – again). Landinspektøren, issue 1/20112, 31-33.

⁶¹ Damgaard, A. and Foged, P. (2006): *Vilsted Sø – De gjorde det muligt* (in Danish) (Vilsted Lake – They made it possible). Aalborg Universitetsforlag.

the land consolidation project, is restricting the outcome of the land consolidation projects. It is, however, worth to notice that this is not due to the EC regulation but mainly due to the limited scope in the design of the support measures in the Danish RDP.

We can conclude that the potential for pursuing multiple purposes in the same project with the Danish land consolidation instrument has not been realized. An important explanation relates to the funding sources of land consolidation projects. Funding under the various nature restoration programmes have only been available for land transactions directly related to the nature projects. In the land consolidation projects fully funded by the initiator, typically large water supply companies or municipalities, these initiators are not willing or even allowed to fund land transactions which are not directly or indirectly related to their afforestation projects.

3.5 PERSPECTIVES AND RECOMMENDATIONS FOR THE FUTURE

The further development of the Danish land consolidation and land banking instruments has in recent years been discussed among land consolidation professionals and members of academia.⁶²

In 2012, the new Danish government formed an independent and fast working *nature and agriculture commission* to give recommendations for solving structural, financial and environmental challenges including proposals for how Danish agriculture can contribute to actions against climate change as well as improved conditions for nature and environment. In April 2013, the commission presented 44 detailed recommendations.⁶³

Three of the recommendations of the commission relate directly to the land consolidation and land banking practice. It is proposed to strengthen the existing land consolidation instrument and to establish a *national nature fund* funded in a public-private partnership. The nature fund shall have the opportunity to acquire not only private land in planned project areas but also private agricultural land to be used for compensation in land consolidation projects. Furthermore, the commission stresses the need to re-introduce land consolidation projects with the traditional objective of agricultural development and propose to exempt land

⁶² Haldrup, N.O. (2011): *Almindelig jordfordeling – igen* (in Danish) (Traditional land consolidation – again). Landinspektøren, issue 1/2011, 31-33.

⁶³ Natur- og Landbrugskommissionen (2013): *Natur og Landbrug – en ny start* (in Danish) (Nature and Agriculture – a new start – Final report from the Nature and Agricultural Commission).

transactions in such projects from the normal land registration fee of 0.6 % of the value of the land transferred.

The government has received well the recommendations of the commission and in December 2013 it was politically agreed to establish a *national nature fund* from 2015. It is not yet clear (November 2014) how the recommendation of strengthening the land consolidation instrument will be carried out. Furthermore, the government launched in October 2014 *Nature Plan Denmark*, in which the land consolidation instrument also is mentioned as an important tool for the establishment of a contiguous nature network. These new initiatives are golden opportunities to develop and future-proof the Danish land consolidation and land banking instruments.

The new national nature fund, which from the start in 2015 is expected to have a startup capital of 130 million Euros, will have the opportunity to function in the same way as the state land bank managed by the Ministry of Food, Agriculture and Fisheries. Thus, it will add extra funds and volume to the well-functioning Danish land bank system. A precondition is, however, that the management of the national nature fund will be able to act under the existing fast and flexible land bank provisions in the land consolidation law. To do so it needs to be empowered to act on behalf of the minister as it functions for the state land bank (section 3.4.2).

The recommendation of the *nature and agriculture commission* to re-start the traditional land consolidation projects with the objective of agricultural development through an exemption from the normal land registration fee is a small step in the right direction. This will, however, not solve the fundamental problem which is that since 2006 there has been no financial support for this type of land consolidation. All experience show that the local landowners and farmers with need and interest in traditional land consolidation will not by them self initiate and organize land consolidation projects. An exemption from registration fee will not fundamentally change this.

What is really needed is to establish a new broad subsidy scheme where the objectives of agricultural development, nature restoration, improved biodiversity and landscape values as well as recreational initiatives all are given the same priority and where the specific objectives will vary from land consolidation project to project. It would be an option to fund the new support scheme under Rural Development Programme 2014-2020 but it would be even better to secure the funding only from the State budget because of the mentioned restrictions when using RDP funds. This would allow for realization of the potential for multi-purpose use of the Danish land consolidation instrument which, as discussed in section 3.3.3 and 3.4.3, so far has not been realized. Multi-purpose in the projects

under a new subsidy scheme could be further strengthened if the *property pre-study*, normally carried out in land consolidation projects with nature restoration purpose, is expanded to the preparation of what could be called a *local development plan*. The plan should be prepared through a participatory process involving all relevant and interested stakeholders such as the local landowners, farmers and their local associations, the village population, local NGOs as well as the local municipality and the local unit of the Ministry of Environment. The subsequent land consolidation project will then seek to implement the elements of the plan where the change in land ownership is relevant while other elements can be implemented outside the frame of the land consolidation.

Re-opening of land consolidation projects with the traditional purpose of reduction of land fragmentation and enlargement of the production farms under a new broad subsidy scheme will, as it has always been the outcome of the traditional land consolidation projects, increase productivity and competitiveness of the production farms. The agricultural structure in Denmark has, as explained in section 3.3.1, changed rapidly during the last decades. From around 1990, the *land law* has been gradually liberalized lifting almost all the restrictions on acquisition of agricultural land. This has resulted in a farm structure where large production farms often own and rent agricultural land in a very long distance (20-30 km) from the homestead which again leads to loss in income and productivity for the farmer. The rapid structural development has, however, also other negative effects, not only for the farmer. A recent study from Finland shows that the structural development causes fragmentation of the ownership structure and that the climate impact through increased emission of greenhouse gases due to increased agricultural transportation will be remarkable especially in the long run if the changes in the property structure are not prevented.⁶⁴ Hence, the land consolidation instrument can in the future also play an important role as part of government policy on combatting climate change. Furthermore, the nature restoration and afforestation projects implemented during the last 25 years, also have had a positive contribution to reducing emission of greenhouse gases.

3.6 CONCLUSIONS

Denmark has a long lasting land consolidation tradition. From the 1920s until the 1980s, the land consolidation and land banking instruments were used as tools for agricultural development mainly through reduction of land fragmentation and facilitation of the structural development as it was the case also in other European

⁶⁴ Hiironen, J. and Niukkanen K. (2013): *On the structural development of arable land in Finland – How costly will it be for the climate*. Land Use Policy 36 (2014) 192-198.

countries in the period. Public funding (national as well as EU co-funding) of these traditional projects was discontinued in 2006.

From 1990, the land consolidation instrument has been used for the implementation of nature restoration projects under various government programmes. In this framework, the land consolidation and land banking instruments have proven to be absolutely essential in the process of reaching voluntary agreements with the affected landowners.

Participation in land consolidation projects is voluntary in Denmark. This means that the project must have something to offer to the potential participants. The offer which is acceptable for the participants is often other land in compensation and land consolidation solutions which cannot be negotiated by the participants bilaterally but only as part of a planned and facilitated re-allotment planning process.

The Danish land consolidation procedure is today basically the same as the system which was introduced with the amendment of the law in 1955. The procedure has proven to be robust and so flexible that the objectives of the projects have been able to shift from agricultural development including land reclamation to giving the land back to nature in nature restoration projects without any need for amendment of the land consolidation procedure.

The multi-purpose potential in the Danish land consolidation instrument has not been realized and there is a need for further development of the instrument in this direction. It is the recommendation to establish a new broad subsidy scheme where the objectives could vary from project to project depending on the local needs. This can be done within the existing legal framework and procedures.

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REFERENCES

- Bjerre, T.K. (2010): *Skovrejsningsprojektet – powerpoint presentation* (in Danish) (The Afforestation Project – powerpoint presentation).
- Boe, P. (1965): *Arronderingsproblemer i landbruget* (in Danish) (Fragmentation problems in agriculture). Tidsskrift for Landøkonomi, nr. 9, November 1965.
- Damgaard, A. and Foged, P. (2006): *Vilsted Sø – De gjorde det muligt* (in Danish) (Vilsted Lake – They made it possible). Aalborg Universitetsforlag.
- Elmstrøm, H. and Nielsen, B. (1987): *Jordfordeling i en almindelig landinspektørforretning* (in Danish) (Land consolidation in an average private surveying company). Landinspektøren. 33. bd., 530-536.
- FAO (2008): *Opportunities to mainstream land consolidation in rural development programmes of the European Union*. FAO Land Tenure Policy Series 2.
- Forordning om jord fællesskabets ophævelse* (in Danish) (Decree on the Abolishment of the Common Use of Agricultural Land). Decree of 23 April 1781 issued by The King.
- Haldrup, N. O. (2004): *Danish Land Consolidation – The interaction between land consolidation and land banking*. Paper for FAO land banking workshop in Tonder, Denmark, March 2004.
- Haldrup, N.O. (2011): *Almindelig jordfordeling – igen* (in Danish) (Traditional land consolidation – again). Landinspektøren, issue 1/2011, 31-33.
- Hartmann, N.U. (1981): *Jordomlægningerne i Skjernådal* (in Danish) (Land consolidation in the Skjern River Valley). Book chapter in *Skjernådal før, under og efter afvandingen*. Landvindingslagene i Skjernådal og Skjern-Tarm Landboforening.
- Hartvigsen, M. and Østergaard, F. (1993): *Erfaring med jordfordeling i forbindelse med større naturgenopretningsprojekter* (in Danish) (Experiences with land consolidation in connection with larger nature restoration projects). Landinspektøren. 36. bd., 560-563.
- Hartvigsen, M. (2014): *Land Mobility in a Central and Eastern European Land Consolidation Context*. Nordic Journal of Surveying and Real Estate Research. Volume 10 Number 1/2014, 23-46.
- Hiironen, J. and Niukkanen K. (2013): *On the structural development of arable land in Finland – How costly will it be for the climate*. Land Use Policy 36 (2014) 192-198.
- Jacoby, E. (1959): *Land Consolidation in Europe*. International Institute for Land Reclamation and Improvement, Wageningen.
- Jordbrugsdirektoratet (1980-1997): *Årsberetninger* (in Danish) (Annual reports).
- Jordfordelingsloven* (in Danish) (Law on Land Consolidation - Law no. 1240 of 18 December 2012).

- Jørgensen, C. et al.(Edt.) (1997): *Jord lovgivning* (in Danish) (Land legislation). GADJura,
- Klæsøe, L. (1997): *Jordfordelingsloven* (In Danish) (Law on Land consolidation). In Jørgensen, C. et al.(Edt.). *Jord lovgivning* (in Danish) (Land legislation). GADJura, pp. 797-879.
- Landbrugsministeriet (Ministry of Agriculture) (1982): *Jordfordeling – rapport fra en arbejdsgruppe under Landbrugsministeriet* (in Danish) (Land consolidation – report from a working group under the Ministry of Agriculture).
- Landbrugsministeriet (Ministry of Agriculture) (1988): *Struktur- og Planudvalget – 2. Delbetænkning* (Betænkning nr. 1145) (in Danish).
- Meier Andersen, N. (2004): *Land Banking and Land Fund Schemes in Denmark*. Paper for FAO land banking workshop in Tønder, Denmark, March 2004.
- Ministry of Environment (2005): *The Skjern River*.
- Ministry of Environment (2008): *Den Særlige Vand og Naturindsats* (in Danish) (The Specific Water and Nature Measure).
- Ministry of Food, Agriculture and Fisheries (2013): *Draft Danish Rural Development Programme for 2014-2020* (in Danish).
- Munk Mouritsen, A. K. (2004): *Property Restructuring in Denmark – a Method for Achieving the Objectives of Environmental Protection and Cultural Heritage*. Nordic Journal of Surveying and Real Estate Research, no. 1, 2004, 44-56.
- Natur- og Landbrugskommissionen (2013): *Natur og Landbrug – en ny start* (in Danish) (Nature and Agriculture – a new start – Final report from the Nature and Agricultural Commission).
- Orbicon and Capacent-Epinion (2008): *Slutevaluering af det danske landdistriktsprogram 2000-2006 – delrapport vedr. Jordfordeling* (in Danish) (Es-post evaluation of the Danish Rural Development Programme 2000-2006 – Subreport on Land Consolidation).
- Orbicon (2009): *Ejendomsmaessig forundesøgelse i forbindelse med Elmelund Skovrejsningsprojekt* (in Danish) (Property Pre-study in connection with Elmelund Afforestations Project).
- Priemé, J. (1997): *Fra jord til bord – Strukturdirektoratets historie*. Strukturdirektoratet.
- Sunesen, A. (1987): *Jordfordelingslovens administration* (in Danish) (The administration of the Law on Land Consolidation). Landinspektøren. 33. bd., 510-517.
- Sørensen, E.M. (1987a): *Lokal landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab* (in Danish) (Local agricultural planning – a study of the Danish land consolidation practise 1979-84 and regarding changes in agriculture and landscape). Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21.

- Sørensen, E.M. (1987b): *Jordfordeling i et udviklingsperspektiv* (in Danish) (Land consolidation in a development perspective). Landinspektøren. 33. bd., 550-561.
- Thomsen, I.E. (1995): *Den sønderjyske jordfond* (in Danish) (The South Jutland Land Bank). Landinspektøren, issue 4/1995, 500-504.
- VCS Denmark (2014): *Production figures* from: <http://www.vcsdenmark.com/about%20us>
- Østergaard, F. (1987): *Jordfordeling ved vejanlæg* (in Danish) (Land consolidation in connection with road projects). Landinspektøren. 33. bd., 537-543.
- Østergaard, F. (1989): *Naturgenopretning og jordfordeling* (in Danish) (Nature restoration and land consolidation). Landinspektøren. 34. bd., 619-622.
- Østergaard, N. (1967): *Status over jordfordelingsplanlægningen* (in Danish) (Status for Land Consolidation). Statens Byggeforskningsinstitut. SBI særtryk nr. 176.

CHAPTER 4

4 EXPERIENCES WITH LAND REFORM AND LAND CONSOLIDATION IN MOLDOVA⁶⁵

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Land reform, rural land market development, land fragmentation, land consolidation

Abstract

Land privatization in the Republic of Moldova was made feasible through the adoption of the Land Code in 1991. The land reform and post-land reform development has resulted in a polarized agricultural structure with an average land holding of 1.56 hectares, typically distributed in 3–4 parcels. In many cases the fragmentation of land parcels has prevented the land market from developing.

As a result of increasing political awareness of the problems, in 2004 the Government of Moldova requested assistance from the World Bank to address the situation. This led to a feasibility study and ultimately to the implementation of land consolidation in six pilot villages; this was then scaled up to an additional 40 villages.

The six pilots were implemented during 2007–2009. In total, more than 7,000 landowners and almost 27,000 agricultural parcels were identified in the six pilot villages. Of these more than 2,900 (40 percent) participated in the project through land transactions. The scheme was completely voluntary.

⁶⁵ The paper is written by Morten Hartvigsen, Maxim Gorgan and David Palmer with Morten Hartvigsen as the main author (see co-author statement).

During 2009–2010, the activity was scaled up with 40 new projects. A total of 7,520 hectares changed ownership, and around 2,600 hectares were transferred through long-term leases. About 25 percent (12,795) of all owners participated in the project.

In 2010, the Government of Moldova requested FAO to support the preparation of a national land consolidation strategy. The plan is for this strategy to be implemented through a national land consolidation programme. In January 2013 it was expected that the land consolidation strategy would be adopted by the government in mid-2013 as part of a general strategy for agriculture and rural development.

4.1 INTRODUCTION

Most countries in Eastern Europe have been through a remarkable process of land reform that resulted in a complete shift from collective or state ownership of agricultural land to private ownership. The majority of these reforms were carried out in the 1990s and started with the transition from a command economy to a market economy. Land was privatized in different ways. In some countries, e.g. the Baltic states, privatization took the form of restitution to owners or their heirs of land that had been registered before the Second World War. In other countries, e.g. Albania, Armenia and Moldova, privatization was implemented through an equitable distribution of land parcels. In yet other countries, e.g. Ukraine and Russia, agricultural land was privatized by distributing to farm workers ‘ideal’ or ‘equivalent’ shares (i.e. undivided shares) with the land often continuing to be used by large-scale agricultural enterprises. All of these reforms were essentially driven by considerations of political justice. In some countries they were also driven by the need to rapidly allocate agricultural land to rural households in order to address problems of food security after the collapse of collective and state farms.

This paper describes the land reform process undertaken by Moldova, the land fragmentation that resulted, and recent efforts to address fragmentation through the introduction and development of a land consolidation instrument.

4.2 LAND REFORM IN MOLDOVA AND ITS OUTCOMES

The Republic of Moldova is situated in Eastern Europe between Romania and Ukraine. It was part of the Soviet Union and declared its independence in August 1991. During the Soviet era all agricultural land was state-owned.⁶⁶ Land was used

⁶⁶ World Bank. (2005): *Moldova Agricultural Policy Notes, Agricultural Land*.

for large-scale farming in collective or state farms and typically organized with one large farm per village.

4.2.1 LAND PRIVATIZATION

Land privatization was made feasible through the adoption of the Land Code in 1991 and the Law on Peasant Farms.⁶⁷ The Land Code set out the principles and processes for privatization and distribution of agricultural land. Meanwhile the Law on Peasant Farms provided the legal tools for establishing individual private farms by allowing people to exit from collective farm enterprises. In accordance with articles 6 and 12 of the 1991 Land Code, village land commissions were established to determine 'equivalent' land shares for eligible recipients, such as members and workers of collective and state farms. Eligibility extended to administrative and professional staff, teachers, social workers and pensioners. One of the first activities was to determine the land fund subject to privatization, and the village land commissions played a central role. The exact size of the land fund for all of Moldova's villages was established by Government Decree number 469 in 1994.

The 1991 Land Code (article 13) provided for the preparation of 'land arrangement projects' to distribute the state-owned agricultural land to the rural population. These privatization projects were approved by local councils of the *primarias* (i.e. municipalities) upon the recommendation of the village land commissions, after taking into consideration the opinions of the owners of land shares. The local councils authenticated the distribution of property rights for the equivalent shares of land and issued land titles for land shares. Initially, the provisional land titles did not indicate the exact location of parcels and eligible persons were not allocated physically distinct parcels. According to the Land Code, the owners of the land shares had the right to withdraw from the collective farms and establish individual farms. In this situation, distinct physical land parcels were allocated.

Administrative support for land privatization was relatively weak and in many cases the management of collective and state farms worked against the process. Between 1992 and 1996, less than 10 percent of members of collective farms had left and those that had were trying to farm individually, often without any equipment.⁶⁸ As such, despite the early start, land reform in Moldova advanced

⁶⁷ Csaki, C. & Lerman, Z. (2001): *Land reform and farm restructuring in Moldova: A real breakthrough?* Discussion Paper, Hebrew University of Jerusalem.

⁶⁸ East-West Management Institute. (2001): *Moldova Land Privatization Program – Final Report*.

very slowly until 1996 when the Constitutional Court removed legislative constraints.⁶⁹

Moldova's land reform was heavily influenced by donors. The National Land Programme, funded by USAID, was launched in 1997 following two privatization pilot projects. Land arrangement projects for privatization were finally prepared and implemented using the procedure set out in the 1991 Land Code, but only after resolving the issue of outstanding farm debts. The new owners each received parcels of 'equivalent soil quality' rather than of equal surface area, i.e. allocations of land with good soil quality were smaller than those for less fertile soils.

The National Land Programme ended in 2001 and resulted in the privatization of 1 004 collective and state farms.⁷⁰ More than 98 percent of agricultural land subject to privatization (around 1.7 million hectares) was distributed to almost 1.1 million new owners, each with an average land holding of 1.56 hectares.⁷¹ Moldova was relatively unusual among transition countries in that a husband and wife (for example) would each received land parcels, rather than the household.

A land registry, the Agency for Land Relations and Cadastre, was established during the implementation of the National Land Programme with headquarters in the capital, Chisinau, and branch offices in each *raion* (i.e. administrative region). The parcels distributed during the privatization process have in most cases been registered.

The land reform in the 1990s and post land reform development has resulted in a polarized agricultural structure. A duality now exists: with a relatively small number of large corporate farms at one extreme and a large number of very small and fragmented family farms at the other. While smallholders operate some 99.5 percent of farms, they farm less than 39 percent of the total utilized agricultural area. Their farms average around one hectare compared with an average of almost 250 hectares for the larger operators, who are often farming on leased land.⁷² Medium-sized family farms that are the backbone of the agricultural structures in most Western European countries are almost completely absent in Moldova.

⁶⁹ Csaki, C. & Lerman, Z. (2001): *Land reform and farm restructuring in Moldova: A real breakthrough?* Discussion Paper, Hebrew University of Jerusalem.

⁷⁰ East-West Management Institute. (2001): *Moldova Land Privatization Program – Final Report*.

⁷¹ Consulting and Credit in Agriculture (CCA): (2003). *Agricultural Land Market in Moldova – Baseline Study*.

⁷² National Bureau of Statistics. (2011): *Preliminary result of General Agricultural Census*.

4.2.2 LAND FRAGMENTATION AS A SIDE EFFECT OF LAND REFORM

As elsewhere throughout Eastern Europe, land fragmentation occurred in Moldova as a side effect of the land privatization process. During the implementation of the National Land Programme the issue of land fragmentation was raised politically, and in 1998 the Land Code was adjusted to minimize fragmentation.⁷³ From that stage on, the equivalent land share was to be allocated in not more than three physical parcels – i.e. of arable land, vineyard and orchard – depending on the situation in the village. The level of land fragmentation after the privatization process varies considerably from village to village: new owners were almost always allocated three parcels officially, but they often received more. In some villages the persons eligible for land requested up to 12 parcels, e.g. to have orchards with different types of fruit trees.

The level of fragmentation today remains almost the same as when the privatization process ended around 2000. Figure 4.1 shows the level of land fragmentation for the different *raions*. For each *raion*, a land fragmentation index, i.e. number of parcels per hectare, is calculated by dividing the total number of agricultural parcels – including arable land, orchards and vineyards – by the total area of agricultural land. The level of fragmentation is highest in the central part of Moldova.

The extent to which land fragmentation obstructs agricultural and rural development differs from one country to another and a general analysis of the underlying circumstances is beyond the scope of this paper. In the case of Moldova, the small and fragmented farms – e.g. farms of one hectare divided into 3–4 parcels – are widely recognized as a significant barrier for the vast numbers of small-scale family farmers. These farmers live with the daily problem of additional costs and inconvenience caused by fragmentation.

⁷³ Consulting and Credit in Agriculture (CCA). (2003): *Agricultural Land Market in Moldova – Baseline Study*.

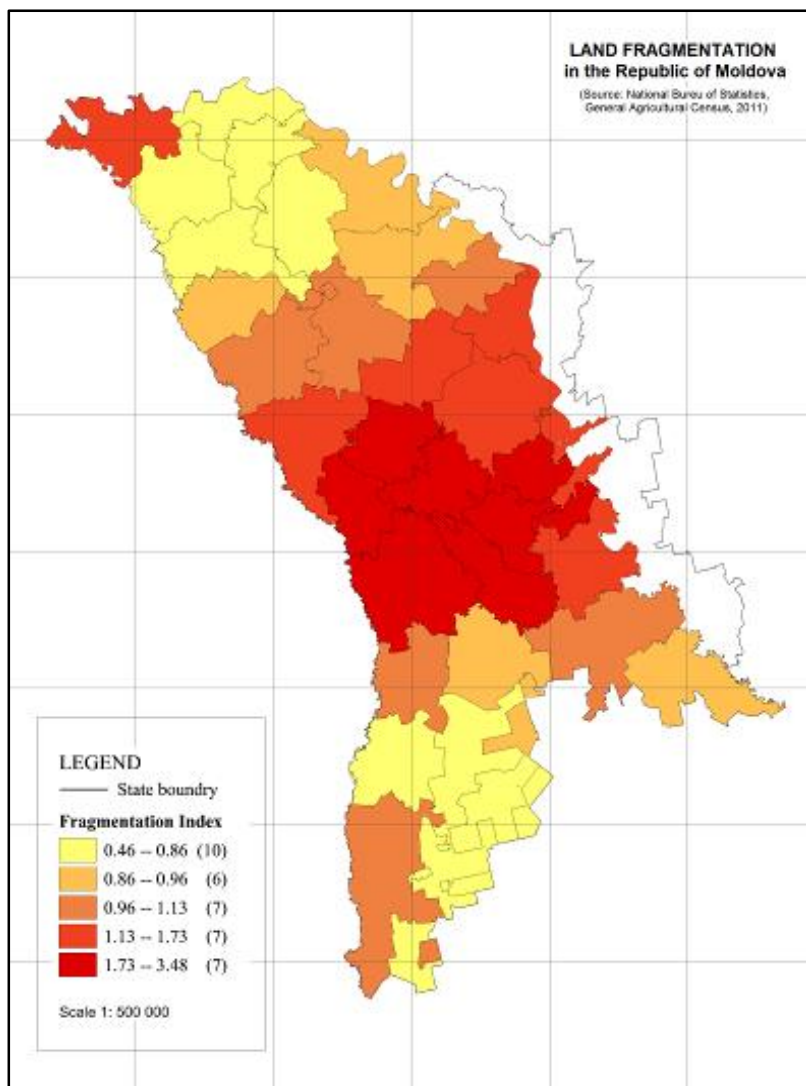


Figure 4.1: Land fragmentation level in raions.⁷⁴

4.2.3 DEVELOPMENT OF THE AGRICULTURAL LAND MARKET

Starting in 1997, legislation permitted the selling and buying of parcels and the agricultural land market has gradually developed from a very low base. Table 4.1 presents data on sales transactions for agricultural land during the period 1999–2008. In 1999, 1,933 sales transactions were registered, transferring a total of 232

⁷⁴ Calculations by the authors based on data from the 2011 General Agricultural Census, (National Bureau of Statistics of the Republic of Moldova).

hectares. A decade later in 2008, 72,000 sales transactions took place and resulted in the transfer of ownership of 12,911 hectares.⁷⁵ A total of nearly 40,000 hectares of agricultural land was sold in almost 400,000 land transactions during the period 1999–2008. The average size of land in one transaction has been stable at about 0.1 hectares throughout that period. Despite this development in the land market, the land sold in this ten-year period is only 2 percent of the total agricultural land in Moldova.⁷⁶

	Number of transactions	Total area of transactions (ha)	Average transaction (ha)	Average price per hectare (MDL)
1999	1,993	232	0.12	3,364
2000	9,753	1,268	0.13	3,100
2001	24,625	2,336	0.09	2,928
2002	27,759	2,682	0.10	3,781
2003	49,165	3,595	0.07	3,733
2004	44,134	3,201	0.07	8,001
2005	47,382	3,250	0.07	9,040
2006	51,483	3,773	0.07	11,000
2007	65,000	4,697	0.07	12,104
2008	72,000	12,911	0.17	10,301
Mean price 1999–2008	393,294	37,945	0.10	6,735

*Table 4.1: Sales transactions for agricultural land 1999–2008 (1 US\$ equals 12 MDL as of March 2012). Source: Botnarenco, 2009.*⁷⁷

In many cases the fragmentation of land parcels has prevented the land market from developing, on account of the high transaction costs and the practical

⁷⁵ Botnarenco, I. (2009): *Consolidarea terenurilor agricole in Moldova (teorie, metode, practica)*.

⁷⁶ Cimpoies, D., Lerman, Z. & Racul, A. (2009): *The economics of land consolidation in family farms in Moldova*.

⁷⁷ Botnarenco, I. (2009): *Consolidarea terenurilor agricole in Moldova (teorie, metode, practica)*.

constraints of the interested buyers. For example, these buyers sometimes need to deal with hundreds of owners, especially in the case of areas involving orchards and vineyards where parcels are sometimes as small as 0.1 hectares.

4.3 INTRODUCTION OF LAND CONSOLIDATION IN MOLDOVA

As a result of increasing political awareness of the problems experienced by small and fragmented farms, in 2004 the Government of Moldova requested the World Bank to assist in addressing the situation. This request led to a feasibility study, and ultimately to the implementation of land consolidation schemes in six pilot villages, later scaled up to an additional 40 villages.

4.3.1 FEASIBILITY STUDY

At the request of the Government of Moldova, the World Bank funded a feasibility study with the objective of providing recommendations on pilot land consolidation activities, based on voluntary participation by the beneficiaries, in order to create more efficient smallholdings. The feasibility study was carried out during 2005–2006 by a team of Danish land consolidation experts and included a background report⁷⁸ and an appraisal report,⁷⁹ leading to the design of a land consolidation pilot project. Based on the experience of the team with pilot projects in several Eastern European countries (for example, Lithuania, Armenia and Serbia), and also on FAO guidelines,⁸⁰

A pilot project with three main components was proposed:

1. simultaneous implementation of land consolidation pilots in six locations
2. capacity building
3. monitoring and evaluation.

The main stages proposed for the pilot project are illustrated in figure 4.2.⁸¹

⁷⁸ Hartvigsen, M. & Haldrup, N. (2005): *Land Re-parceling Study – Background Report*. Copenhagen, Danish Ministry of Food, Agriculture and Fisheries.

⁷⁹ Hartvigsen, M., Haldrup, N., Blaabjerg, E. & Meier Andersen, N. (2006): *Land Re-parceling Study – Appraisal Report (Pilot Program Design)*. Danish Ministry of Food, Agriculture and Fisheries.

⁸⁰ FAO. (2003): *The design of land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Studies No.6. Rome, FAO.

⁸¹ Hartvigsen, M., Haldrup, N., Blaabjerg, E. & Meier Andersen, N. (2006): *Land Re-parceling Study – Appraisal Report (Pilot Program Design)*. Danish Ministry of Food, Agriculture and Fisheries.

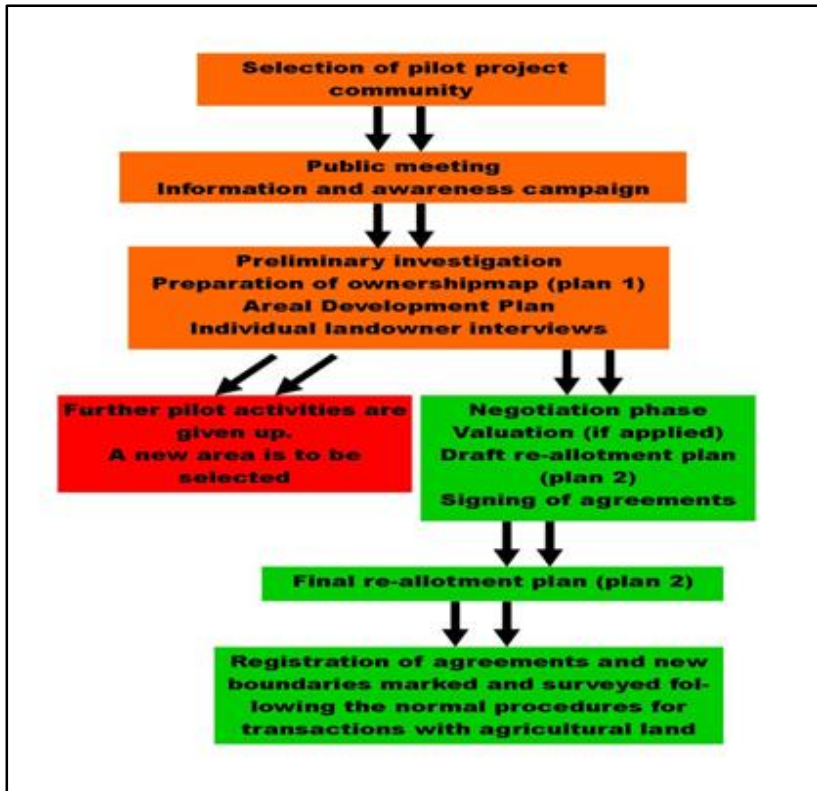


Figure 4.2: Main stages of land consolidation pilots proposed in feasibility study in 2006 (Land Consolidation Pilot Project for six villages).

4.3.2 MOLDOVA LAND RE-PARCELING PILOT PROJECT

The feasibility study led in 2006 to a request by the Government of Moldova to the World Bank and the Swedish Development Agency (SIDA) to fund the implementation of the *Moldova Land Re-parceling Pilot Project* as part of the Rural Investment and Services Project II (RISP-II). FAO participated with the World Bank in the supervision of the pilot project.

Following a tender process, the project was implemented during the period July 2007 to February 2009 by an international consortium consisting of Niras AB (Sweden), Orbicon A/S (Denmark), ACSA (Moldova) and Terra Institute (United States of America). All project costs were covered by World Bank / SIDA funds.

The specific objectives of the pilot project were to:⁸²

1. test the demand and feasibility of land consolidation with small landowners as the primary target group;
2. use the pilot experience as the basis for designing a potential national-level approach, including techniques, resource requirements and a legislative framework;
3. assess the impact of land consolidation at the local level, including on land markets, agricultural production and equity.

The project had three main phases:

Phase 1 – Preparation for land consolidation planning

Phase 2 – Land consolidation planning

Phase 3 – Registration and implementation of signed agreements.

The first activity was to select the six pilot villages using a list of 17 selection criteria proposed in the feasibility study.⁸³ Among the most important criteria were:

- the existence of family farms with the potential for commercial farming and willingness to enlarge their farm size and amalgamate parcels;
- high fragmentation of land parcels;
- a small number of absentee owners and of parcels with problems of inheritance (i.e. where the registered owner was deceased);
- a small number of registration problems arising from the land reform process;
- initiative and commitment from the mayor and local council;
- availability and capacity of the secretary of the local council to provide some notarial services.

A list of 100 candidate villages was prepared by MAFI. Using the selection criteria the contractor and MAFI developed a shortlist of the 20 most suitable villages. They did this via an assessment whereby each village was allocated points depending on how it matched the selection criteria.⁸⁴ The 11 villages with the highest scores were visited; finally the six most appropriate villages were selected (see figure 4.3).

⁸² Hartvigsen, M. (2007): *Moldova Land Re-parceling Pilot Project – Inception Report*. Niras, Orbicon, ACSA and Terra Institute.

⁸³ Hartvigsen, M. & Haldrup, N. (2005): *Land Re-parceling Study – Background Report*. Copenhagen, Danish Ministry of Food, Agriculture and Fisheries.

⁸⁴ Hartvigsen, M. (2007): *Moldova Land Re-parceling Pilot Project – Inception Report*. Niras, Orbicon, ACSA and Terra Institute.

The contractor established a project organization with a project team of three national consultants and a land consolidation planner in each of the six pilot villages. These team members were employed through ACSA, the local partner in the consortium. The agricultural advisory service in Moldova is to a large degree operated by ACSA, and its network of consultants became available for the project implementation. The local team was supported by an international team of five experts from Orbicon and Terra Institute.

A training programme was developed at the start of the pilot project.⁸⁵ It included a series of five training seminars, each seminar covering the activities that should occur in the following months, and ongoing supervision by the national and international consultants. The training was based on land consolidation training materials divided into 12 units outlined via a text and slide presentation, prepared by FAO based on experience gained from projects in Lithuania and Armenia.⁸⁶ Around 60 people from relevant stakeholder institutions participated in the training programme.

A public awareness campaign was prepared and included the following elements:

- A project brochure was prepared and disseminated in the pilot villages (see figure 4.4).
- Three community workshops were organized in each pilot village.
- A project web site was created and maintained during the life of the project.
- Information tailored to the needs of specific landowners and/or farmers was given during interviews and negotiations with them.

At the first community workshop in each of the six villages in October 2007, a local stakeholder committee was elected among and by the workshop participants. These committees were essential to ensure a participatory and bottom-up approach, representing the general interests of the different groups of stakeholders. During the project the local project teams and the local committees met regularly. The committees participated in the land valuation process and in some cases also helped to facilitate the negotiations between landowners and/or farmers.

⁸⁵ Ibid.

⁸⁶ FAO (2006): *Land tenure training materials on land consolidation pilot projects*. Rome, FAO.

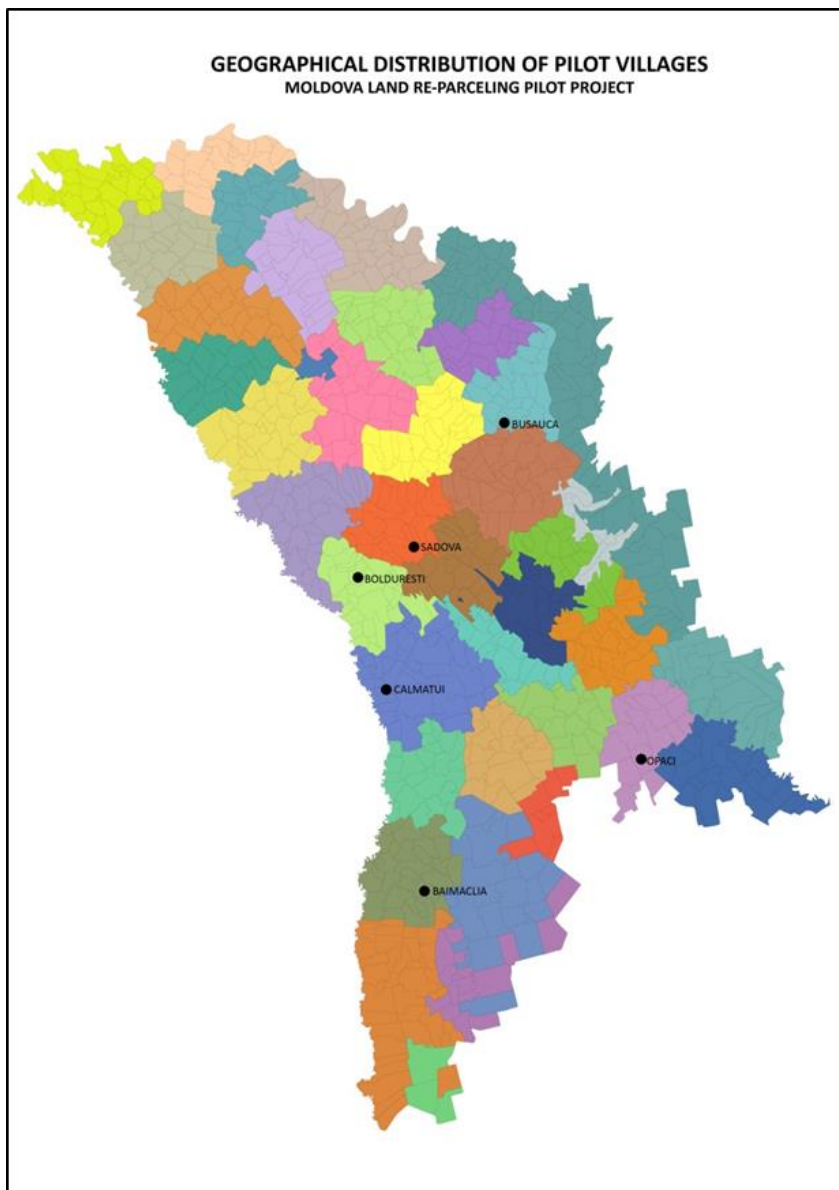


Figure 4.3: Location of selected pilot villages

Another early step was the preparation of ownership maps (referred to as ‘Plan 1’), which showed all agricultural parcels in each of the six villages. These maps were based on official data from the land register, such as cadastre maps and registry information on ownership, parcel size and land use. The local teams initially

prepared analogue maps; later in the process digital maps were created using GIS software. In total, more than 7,000 landowners and almost 27,000 agricultural parcels were identified in the six pilot villages.



MINISTERUL AGRICULTURII ȘI INDUSTRIEI ALIMENTARE

Ce vă poate oferi reparcelarea terenurilor?



Situația curentă a terenurilor agricole

Proiectul pilot de reparcelare a terenurilor agricole din Moldova a fost lansat pe 1 august 2007 și va dura până la 1 februarie 2009. Scopul de bază a proiectului pilot este dezvoltarea gospodăriilor țărănești de fermier. Proiectul este implementat de un consorțiu internațional condus de Niras AB din Suedia în cooperare cu Ministerul Agriculturii și Industriei Alimentare din Moldova.

Activitatea de bază a proiectului este elaborarea și implementarea proiectelor de reparcelare a terenurilor agricole în șase localități pilot selectate:

- Bușăuca, Rezina
- Sadova, Călărași
- Boldurești, Nisporeni

- Calmațui, Hâncești
- Opaci, Căușeni
- Baimaclia, Cantemir

Cele șase sate au fost selectate în urma unui proces riguros în baza unei liste de 100 de sate candidate.

Participarea în cadrul proiectului este deschisă tuturor proprietarilor de terenuri din localitățile pilot, fermierilor și altor persoane cointeresate în reparcelarea terenurilor agricole.

Participarea binevolă

În perioada privatizării terenurilor din anii 90, majoritatea locuitorilor din localitățile rurale ale Moldovei au primit câte 3-4 parcele de teren (teren arabil, livadă și vie), în total, de obicei această suprafață însumă 1-3 hectare de pământ.

Scopul de bază a proiectului este de a contribui la dezvoltarea agriculturii prin folosirea mai rațională a pământului și lărgirea parcelelor de teren. Participarea în cadrul proiectului este complet binevolă.

Puneți-vă, așadar întrebarea:
Ce poate să-mi ofere proiectul de reparcelare?

Răspunsurile vor fi individuale, bazate pe situație, posibilități și dorințele proprietarilor









Figure 4.4: Brochure given to landowners and local stakeholders

The next step was to investigate interest in and desire for the land consolidation project on the part of landowners and/or farmers. An interview form was prepared and the process of interviewing all owners of agricultural parcels in the six villages began. For four months between December 2007 and March 2008, interviews

were held with more than 6,000 landowners, representing 83 percent of all landowners.⁸⁷

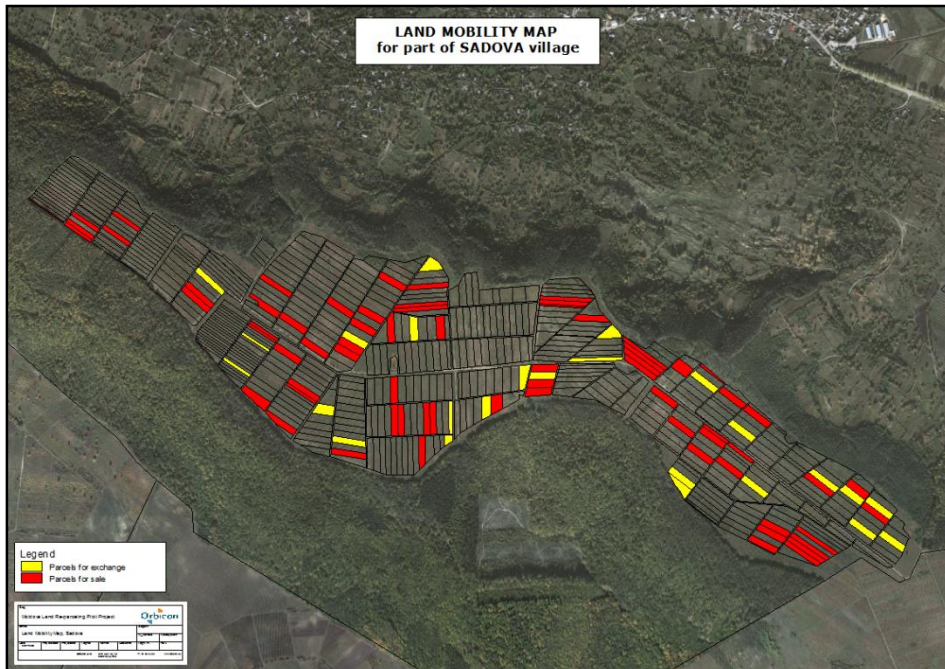


Figure 4.5: Land mobility map for part of Sadova village

The data collected during the interviews were analysed and a report was prepared for each of the villages to describe the agricultural structure and production. A land mobility map – i.e. a map showing the parcels for which landowners had indicated their willingness to sell or exchange – was also prepared for each village (see figure 4.5).

A total of 49 percent of the interviewed landowners indicated that they were willing to participate through the selling, buying, exchanging and/or leasing of land parcels (see table 4.2). The interest demonstrated by landowners in participating varied from 33 percent in Opaci to 67 percent in Bolduresti. The interview forms – which gathered information such as land use and agricultural production and the interest of each landowner – were combined with the ownership map (referred to as “Plan 1”) and the land mobility map. The combined results would give the local project teams a good platform for facilitating the

⁸⁷ Hartvigsen, M. (2008): *Moldova Land Re-parceling Pilot Project – Mid-term Report (May)*. Niras, Orbicon, ACSA and Terra Institute.

detailed negotiations between the landowners and/or farmers in the second phase of the project.

Final Status of project	Busauca pilot site	Sadova pilot site	Bolduresti pilot site	Calmatui pilot site	Opaci pilot site	Baimaclia pilot Site	Total in pilots
Total number of registered agricultural land parcels	3.011	5.922	6.006	2.022	5.626	4.204	26.791
Identified number of landowners	708	1.319	1.786	635	1.762	1.048	7.258
Number of landowners willing to participate based on interviews done Nov. 2007 – March 2008	426 (60%)	535 (41%)	1.202 (67%)	286 (45%)	589 (33%)	540 (52%)	3.578 (49%)
Number of signed re-parceling agreements	438	510	1.130	575	250	549	6.502
Number of transactions (buying-selling, exchange and heritage) fully registered as of 28 February 2009.	907	350	1.197	440	473	245	3.612
Number of reimbursed transactions	773	350	1.180	410	450	160	3.323
Total area with changed ownership (hectares)	495,93	93,33	370,58	223,52	283,30	309,31	1.775,97
Number of parcels leased through the project.*	80	0	150	80	70	30	410
Total area leased through project (hectares)*	40	0	100	21	91	50	302
Total number of parcels participating in the project (change of ownership + lease)	987	350	1.347	520	543	275	4.022
Total number of participating landowners	578	240	1.270	430	240	150	2.908
Total number of participating landowners in % of all identified landowners	82%	18%	71%	68%	14%	14%	40%

* estimated.

Table 4.2: Final results of the Pilot Project. Source: Hartvigsen, 2009.⁸⁸

The methodological approach of the pilot project placed land consolidation in an integrated rural development context. A community area development plan was prepared for each village by the project team in close cooperation with the residents and their elected leaders. Three workshops were organized in each village to prepare and discuss the draft development plans. The exercise gave consideration to agricultural issues, local infrastructure, social issues and other issues of local importance. One of the results was a catalogue of local development initiatives to be implemented. The pilot project had funding only for the re-parceling itself, but in some cases the national and local project teams were successful in assisting the villages to find funding for the implementation of their development plans.

In the second phase of the pilot project the local teams, supported by national and international consultants, facilitated a process of negotiation and land consolidation planning between the landowners and/or farmers in the six villages. The objective was to assist participants in identifying the best possible options for re-allotment, and to represent the results on a re-allotment plan (referred to as 'Plan 2'). Each village was divided into sub-areas that were bounded by roads or

⁸⁸ Hartvigsen, M. (2009): *Moldova Land Re-parceling Pilot Project – Final Report*. Niras, Orbicon, ACSA and Terra Institute.

channels. This was necessary in order for the local project teams to have an overview of the situation and to manage the re-allotment process, as in some cases there were over one thousand interested landowners. For each sub-area the design goals for the re-allotment planning were defined by the local project team in cooperation with the elected committee of stakeholders. For example, a sub-area where a number of landowners wanted to sell their parcels might be considered a location of interest for landowners who wished to consolidate and enlarge their holdings.

A land valuation exercise was conducted as part of the land consolidation planning to find the market price for each parcel offered for sale or exchange. For each of the defined sub-areas, a market value per hectare was estimated. This value was subsequently used as the basis for the negotiations between landowners and/or farmers, which were facilitated by the project teams.

The project aimed first to do as much as possible to improve the ownership structure and then to facilitate long-term lease agreements as a supplement. The process is illustrated in figure 4.6.⁸⁹

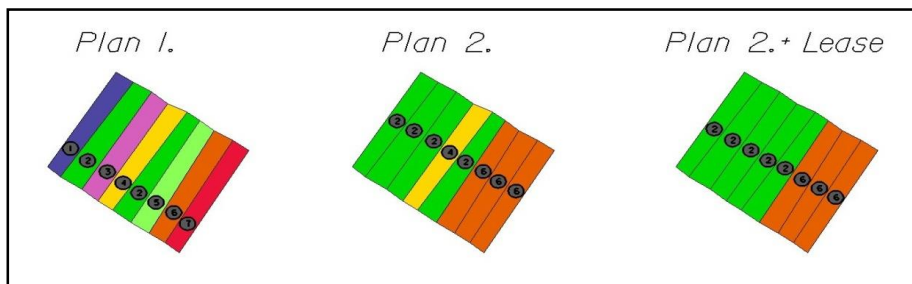


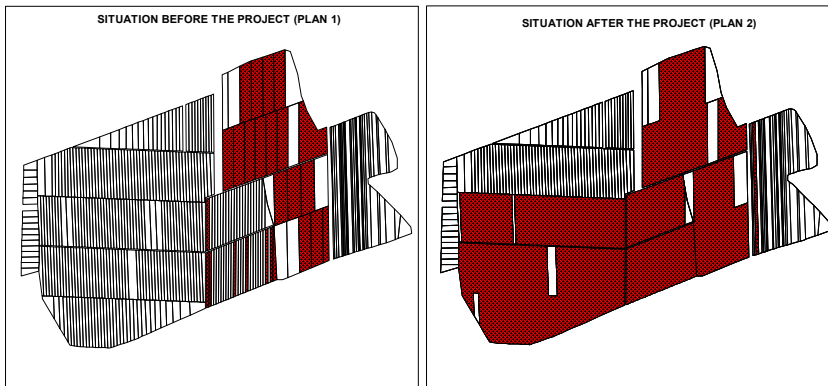
Figure 4.6: Land consolidation process – First change of ownership, then lease as supplement.

When an agreement on selling, buying or exchanging agricultural parcels was finalized with each stakeholder, an agreement form was completed outlining the relevant information and conditions, and this was signed by the landowner (see photo below).

⁸⁹ Ibid.

BOX 4.1: Land consolidation and the promotion of agricultural development

Bolduresti is a typical Moldovan village, with old, unproductive orchards. Before the pilot project started, a local farmer wanted to acquire about 30 hectares in order to establish a new orchard. As the parcel sizes created for orchard areas during the land reform were small, the area identified had 124 individual owners. The farmer managed to acquire an area of about 10 hectares by purchasing a number of parcels with an average size of about 0.7 ha. However, the remaining area comprised parcels as small as 0.14 ha, and the high transaction costs and time constraints of dealing with a large number of owners caused the farmer to give up.



Through the pilot project, the farmer was able to acquire and consolidate another 15 hectares of unproductive orchard in a relatively short period of time. This involved purchasing approximately 110 parcels from about 80 landowners. After the finalization of the pilot project the farmer continued to purchase parcels in his area of interest and in 2009 he planted a new plum orchard on the consolidated land.

In total, 2,908 landowners or 40 percent of all landowners in the six villages participated in the voluntary land consolidation pilot project. Three villages were very successful, with the other three being less so. The participation rate varied considerably from 14 percent in Opaci and Baimaclia to 71 percent in Bolduresti and 82 percent in Busauca. In total, 1,776 hectares changed owners through the project, which has been one of the largest land consolidation pilot projects in Eastern Europe so far.

An example of the land ownership structure in a small part of one village before the pilot project (i.e. Plan 1) and after it (i.e. Plan 2) is shown in Figure 4.7. In this

example most of the parcels in this part of the village were purchased and consolidated by a few local farmers. As outlined in the box above, land consolidation can be an efficient tool to stimulate rural land markets in situations where the high level of fragmentation, particularly in areas with very small parcels, hinders market transactions. The ‘frozen’ land market was warmed up.



The first land consolidation agreement being signed in Calmatui village in April 2008

The third and final phase of the project was to register and implement the land transactions agreed between the landowners and/or farmers. Simplified procedures for simultaneous registration were developed following the provisions in the 1991 Land Code. These further built on the simplified procedures already developed under the Land Privatization Support Project 2003–2006 funded by USAID.⁹⁰ The simplified procedures allowed the secretary of the local council to perform some of the duties normally conducted by notaries. This speeded up the procedure and reduced transaction costs.

⁹⁰ Hartvigsen, M. & Haldrup, N. (2005): *Land Re-parceling Study – Background Report*. Danish Ministry of Food, Agriculture and Fisheries.

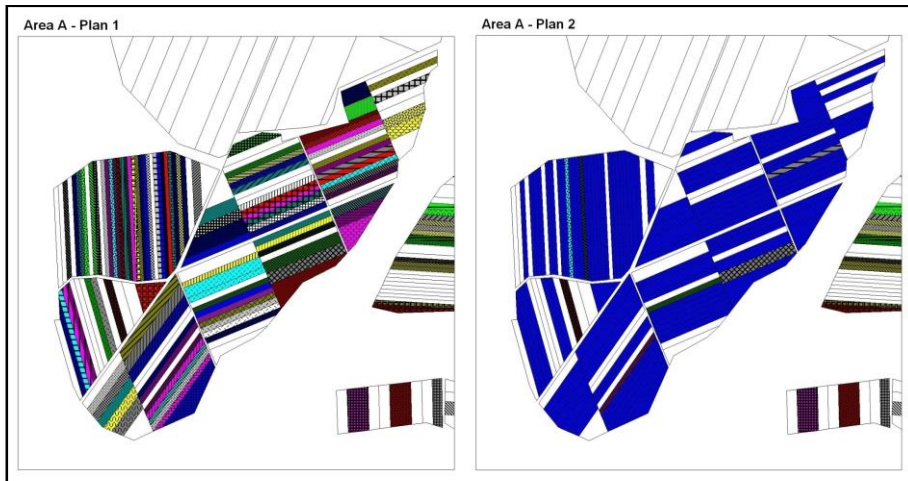


Figure 4.7: Land ownership in part of Bolduresti village before (left) and after (right) the project.

The land transactions started in June 2008 in those sub-areas of the villages where work on the re-parceling plan had been undertaken. Only transactions that improved the parcel structure were funded under the project. In total, 3,612 land transactions were conducted.⁹¹ Despite the use of the simplified transaction procedures, some of the transactions were complicated and time consuming. Among these were so-called ‘inheritance cases’ in which the person registered as the owner in the land register had passed away, but transfer to their successor had not yet been registered. The process for registering the heir is relatively long and involves notaries, but it is a strict requirement before any transaction can take place. The pilot project dealt with almost 600 such cases. Many of these were in Opaci and this was one of the reasons for relatively weak results in that village. In addition, all six pilot villages had a number of problems with the registration of parcels in the land register. In Sadova, one of the less successful villages, large areas had not been registered during the land reform and the problem could not be addressed in the limited project period. Thus, the owners of these unregistered land parcels were excluded from participating. As a result, a recommendation of the pilot project was that future land consolidation projects should roll out over a longer period, such as 2½–3 years, in order to resolve registration and other problems.

⁹¹ Hartvigsen, M. (2009): *Moldova Land Re-parceling Pilot Project – Final Report*. Niras, Orbicon, ACSA and Terra Institute.

4.3.3 IMPACT ASSESSMENT OF THE PILOT PROJECT

The evaluation of the pilot project was part of the concept of the earlier feasibility study. After a tender procedure, Agrex, a Moldovan consultancy, together with an international team leader, carried out an impact assessment of the pilot project in 2011.⁹² The evaluation included a multidisciplinary analysis of the land tenure situation and its economic, environmental and social impact, using a combination of qualitative and quantitative methods. The six villages were compared with three comparable neighbouring control villages.



Newly planted orchard in Bolduresti village on consolidated land.

The conclusion of the impact assessment was:

“An overall conclusion of the assessment is that the first land re-parcelling pilot project in Moldova was a timely, excellent and modern tool to improve the land tenure situation in rural areas. It also contributed to a great extent to building up national administrative capacities and raising public awareness on the benefits of land re-parcelling, as well as highlighting weak parts of the existing national legislation that could be improved in the nearest future in order to

⁹² Agrex (2011): *Impact Assessment of the Land Re-parceling Pilot Project in 6 Villages.*

create suitable conditions for efficient, EU-oriented rural development practice in Moldova.”

The assessment included interviews with 60 owners who participated in the pilot project and 15 owners from the control group. The analysis showed that farms which were included in the pilot project obtained higher gross incomes and had higher returns per hectare than farms that did not participate.⁹³

The environmental impact assessment concluded that the project had established framework principles to ensure that there were no adverse environmental impacts from project activities. It further concluded that the pilot project had, to a great extent, contributed to developing capacities and raising public awareness on the benefits of land consolidation. The impact assessment is one of the very few impact assessments of land consolidation projects in Eastern Europe.

4.3.4 SCALING UP LAND CONSOLIDATION IN AN ADDITIONAL 40 VILLAGES

Based on the experiences with implementation in the pilot villages, in 2009 the Government of Moldova requested the World Bank and SIDA to fund the scaling up of activities through the RISP-II project. This resulted in land consolidation being implemented in 40 additional villages from May 2009 to January 2011. The work was carried out by ACSA, the local partner in the consortium for the pilot project. Given ACSA's network of consultants and the capacity developed in the pilot project, it was possible to scale up and simultaneously implement land consolidation rapidly in 40 villages that were spread geographically across the country.

International assistance was provided to MAFI between November and December 2008 to select the 40 project villages, but no further international technical assistance was provided for the scaling up.⁹⁴ FAO continued to participate with the World Bank in the supervision of the implementation.

The work followed the concept and principles of the pilot project and took into consideration the experiences and lessons learned. While the main target group continued to be small- and medium-sized family farms, participation was not restricted to them. The participation of other groups, such as larger corporate farms and/or investors, helped to achieve mutually beneficial solutions.

The training programme developed for the pilot project was used for training the new team members and the staff of regional and local governments. It was

⁹³ Ibid.

⁹⁴ Hartvigsen, M. (2008): *Selection of 40 Re-parceling Project Communities to be implemented 2009–10*. Orbicon.

supplemented with training for secretaries of the local councils on the procedures and authentication of land transactions, and for the local project teams on GIS software.

Scaling up necessitated a new organizational structure. For the pilot project, a two-level organizational structure was used, with a small central office providing support to the project office in each of the six villages. Working in 40 villages required a three-level structure, and regional supervisors supplemented the support provided by the small central office. Each regional supervisor supported the work in eight villages, on average.

Project final statute	Bălți	Cantemir	Chișinău	Nisporeni	Orhei	Total
Total registered agricultural land plots	25 913	26 961	48 510	28 714	37 715	167 813
Total land owners	9 707	7 476	13 372	7 928	11 701	50 184
Owners willing to participate in project activities (according to interview outcomes)	7 332	4 232	4 109	4 143	7 949	27 765
Land transactions registered (as of 15 December 2010)	4 837	1 472	1 283	2 425	5 668	15 685
Inclusive through lease, >5 years	3 630	8	0	194	523	4 355
Total area with changed owners	3093.38	975.35	588.39	619.38	2247.89	7524.39
Total leased area, ha	2134.28	5.13	0.00	115.09	350.65	2605.15
Total owners to fully benefit	3 644	1 175	979	1 730	4 049	11 577
Participating owners that did not manage to benefit from land transaction financing	418	57	272	185	286	1218
Total participating land owners as % of total identified owners	42 %	16 %	9 %	23 %	38 %	25 %

Table 4.3: Final results of Moldova Land Re-parceling Project in 40 villages distributed on regional project offices. Source: ACSA, 2010.⁹⁵

About 50,000 landowners were identified in the 40 villages, which had a combined area of approximately 80,000 hectares and were divided into 168,000 parcels.⁹⁶ Table 4.3 shows the results of the work, aggregated to the *raion* level. Of a total of 37,500 owners who were interviewed, 27,765 expressed a willingness to participate in the project, i.e. 55.3 percent of all interviewed landowners in the 40 villages. The project supported the conclusion of 15,685 transactions, which account for 9.35 percent of the total number of parcels in the villages. Of the total

⁹⁵ ACSA (2010): *Agricultural Land Re-Parceling Project in 40 villages. Activity Report, 7 May 2009 – 30 June 2010.*

⁹⁶ Ibid.

number of transactions, 65 percent (10,197) were for sales; 5 percent (767) involved exchanges; 8 percent (4,355) were for leases and 2 percent (366) related to inheritance. The total monies spent on the implementation of land transactions (land extracts, notarial services, registration costs, etc) amounted to 1,814,185 lei – about US\$ 154,000 as at March 2012 – or 11.4 percent of the total project budget, which was 15,942,943 lei, about US\$ 1,350,000. All costs related to the land consolidation projects were covered by the World Bank / SIDA funds.

A total of 7,520 hectares changed ownership, and around 2,600 hectares were transferred through long-term leases. About 25 percent (12,795) of all owners participated in the project. The total number of parcels decreased by over 34 percent (from 33,890 to 22,194). The average number of parcels per landowner was reduced from 3.8 to 3.3. The average parcel size increased from 0.65 ha to 0.99 ha and the average farm size increased from 2.43 ha to 2.95 ha.

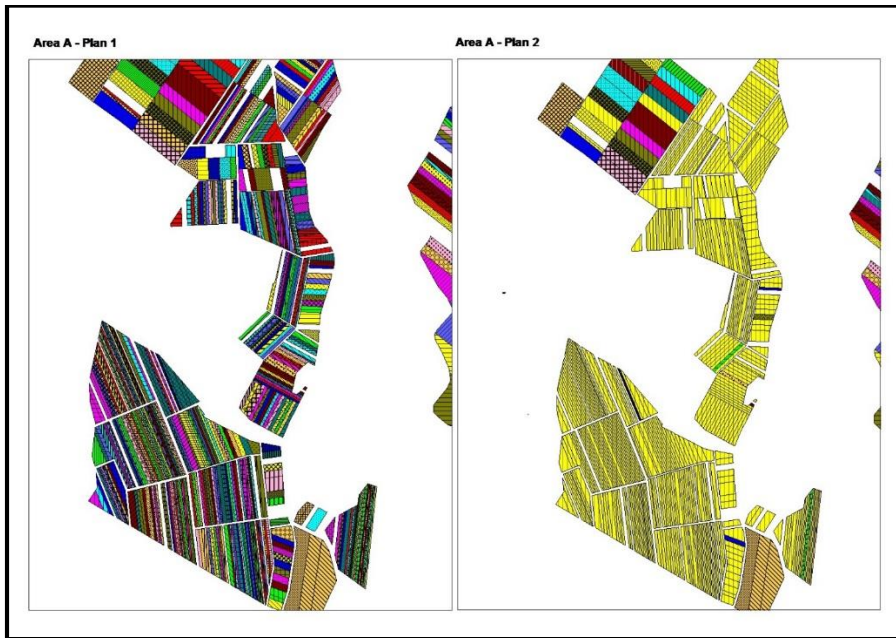


Figure 4.8: Consolidation of non-productive uncultivated vineyards in Ghiduleni village, Orhei raion.

4.4 TOWARDS THE DEVELOPMENT OF A NATIONAL STRATEGY ON LAND CONSOLIDATION

In 2010 the Government of Moldova requested the World Bank and SIDA to fund the initial steps towards the development of a national strategy on land consolidation through the RISP-II project. An international consultant was contracted to assist MAFI by preparing two discussion papers, which were reviewed by relevant stakeholders:⁹⁷

- Main Concept for National Land Re-parceling Strategy for Moldova;
- Main Concept for Land Re-parceling Legislation.

Drawing on these initial concepts, the Government of Moldova requested FAO to support the preparation of a national strategy. This strategy is intended to guide the scaling up of land consolidation and its implementation in a national programme. Technical assistance was provided by national and international consultants who were closely involved with earlier initiatives, and by FAO staff. The development of the strategy was thus linked directly to Moldova's previous experiences.

A first step was the preparation of a 'framework paper' by national consultants to identify issues that should be addressed in a national strategy, and to evaluate options. These issues and options were reviewed with MAFI and an outline of the proposed draft strategy was prepared.

The drafting of the land consolidation strategy went through several iterations. A 'zero draft' was prepared by the national consultants and reviewed by MAFI, FAO and the international consultant. The feedback resulted in a revised 'first draft' which was presented and discussed at a national workshop. This review strengthened the draft strategy and a 'second draft' was presented to MAFI and approved by the Ministerial Council in January 2012. The draft strategy has undergone a formal review by relevant government ministries, prior to being finalized, and did not receive any objections. The State Chancellery has expressed the need to bring together the different strategies in the agricultural sector. It is expected (January 2013) that the land consolidation strategy will be adopted by the government in mid-2013 as part of a general strategy for agriculture and rural development. The draft land consolidation strategy is for a 15-year period and recognizes that conditions are likely to change within that time. Emphasis is placed initially on agricultural development and agricultural improvement based on the consolidation of parcels, enlargement of farm sizes, and increases in

⁹⁷ Hartvigsen, M. (2010): *International Consultant on Land Re-Parceling input to the preparation of a National Land Re-parceling Strategy – Final Report, September 2010*. Orbicon.

production and efficiency. However, it is anticipated that the focus will gradually shift towards the implementation of more comprehensive projects involving public infrastructure works, and the use of land consolidation techniques for non-agriculture purposes such as nature protection, environmental restoration, and projects containing resettlement components.

The draft land consolidation strategy identifies MAFI as the lead agency for land consolidation; as such, it would be responsible for the overall implementation of the programme. The focus for the first few years is on developing capacity for the implementation of the strategy, including: preparing training and public awareness campaigns; building lines of cooperation with key agencies; developing methodological, legal and institutional frameworks; identifying funding sources. The experiences gained during work in the 46 villages disclosed a number of impediments and bottlenecks in the legal frameworks that will have to be eliminated by adopting legal amendments.

4.5 CONCLUSION

Moldova has gone through a remarkable land reform process during the last 20 years. This process had two phases. In the first phase in the 1990s, agricultural land was privatized after four decades of state ownership. As elsewhere in the region, land fragmentation occurred as a side effect of land privatization. The second phase of land reform began around 2004 with the first steps of land consolidation and should continue for decades to come with the implementation of land consolidation projects under a new national land consolidation programme.

Valuable capacity has been developed in both the public and private sectors. Project team members who received training and gained practical experience are available to contribute to a future round of projects.

The preparation of the national strategy for land consolidation has been an important exercise to embed the practical land consolidation experiences into government policy. The strategy will be implemented through the launch of a National Land Consolidation Programme. Even though much has been achieved since 2004–2005, land consolidation is still at a vulnerable stage in Moldova as activities for the short-term are dependent on continued political support and the securing of necessary funding.

The experience of Moldova has redefined expectations regarding the number of owners who might participate voluntarily in projects. Earlier expectations were that voluntary participants might number a few tens of people or a few hundred at the most. The experience of implementing land consolidation in 46 villages during

2007–2010 has shown that it is possible to have projects with over one thousand landowners participating on a completely voluntary basis.

The practical experience of these projects also showed that the existence of large numbers of very small parcels (e.g. 0.1 ha for orchard and vineyard parcels) impede the development of a land market. Land consolidation should not be seen as a substitute for land markets, and instead it can play an important role in removing obstacles so that land markets can function better.

Another important lesson is that the land consolidation process is more time consuming than expected. The work in each of the 46 villages was carried out in only 18 months. This time was often not sufficient to include parcels with difficult registration problems, e.g. where inheritance issues came into play or where parcels were not registered in the land register. The draft strategy therefore proposes that the project period should be 2½ to 3 years. Solving registration problems should be an integrated part of land consolidation.

The work also provided insights on the requirements for a legal framework. As most European countries with ongoing land consolidation programmes have land consolidation laws, an early assumption was that one of the main proposals of the strategy would be the development and adoption of such a law. However, based on the experiences in the 46 villages, the legal analysis showed that a new land consolidation law would not be a necessary requirement for a full-scale national programme. Future land consolidation work will continue to use the provisions in the existing Land Code, which provides for simplified and cost-effective transaction procedures (e.g. by allowing the secretaries of the local councils to perform some notary duties). At the same time, the provisions in the Land Code on the preparation of 'land arrangement projects' that were applied during the privatization in the 1990s can be used in the future to enable local councils to approve and adopt land consolidation projects. Thus, when it comes to a legal framework for land consolidation, the experiences from Moldova are different from those of most other Eastern European countries, where the recommendations have been to adopt a specific land consolidation law before beginning a national programme.

BIBLIOGRAPHY

- ACSA (2010): *Agricultural Land Re-Parceling Project in 40 villages. Activity Report, 7 May 2009 – 30 June 2010.*
- ACSA (2010): *Agricultural Land Re-Parceling Project in 40 villages. Activity Report, 1 October – 31 December 2010.*
- Agrex (2011): *Impact Assessment of the Land Re-parceling Pilot Project in 6 Villages (May).*

- Botnarenco, I. (2009): *Consolidarea terenurilor agricole in Moldova (teorie, metode, practica)*.
- Cimpoies, D., Muravschi, A. & Racul, A. (2008): *Structural changes in Moldovan agriculture: problems and perspectives*.
- Cimpoies, D., Lerman, Z. & Racul, A. (2009): *The economics of land consolidation in family farms in Moldova*.
- Csaki, C. & Lerman, Z. (2001): *Land reform and farm restructuring in Moldova: A real breakthrough?* Discussion Paper, Hebrew University of Jerusalem.
- Consulting and Credit in Agriculture (CCA) (2003): *Agricultural Land Market in Moldova – Baseline Study*.
- Dudwick, N., Fock, K. & Sedik, D. (2006): *A Stock-taking of Land Reform and Farm Restructuring in Bulgaria, Moldova, Azerbaijan and Kazakhstan*. February 2005.
- East-West Management Institute (2001): *Moldova Land Privatization Program – Final Report, 2001*.
- FAO (2003): *The design of land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Studies No.6. Rome, FAO.
- FAO (2004): *Operations manual for land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Manuals No.1. Rome, FAO.
- FAO (2006): *Land tenure training materials on land consolidation pilot projects*. Rome, FAO.
- Hartvigsen, M. & Haldrup, N. (2005): *Land Re-parceling Study – Background Report*. Copenhagen, Danish Ministry of Food, Agriculture and Fisheries.
- Hartvigsen, M., Haldrup, N., Blaabjerg, E. & Meier Andersen, N. (2006): *Land Re-parceling Study – Appraisal Report (Pilot Program Design)*. Danish Ministry of Food, Agriculture and Fisheries.
- Hartvigsen, M. (2007): *Moldova Land Re-parceling Pilot Project – Inception Report*. Niras, Orbicon, ACSA and Terra Institute.
- Hartvigsen, M. (2008): *Moldova Land Re-parceling Pilot Project – Mid-term Report (May)*. Niras, Orbicon, ACSA and Terra Institute.
- Hartvigsen, M. (2008): *Selection of 40 Re-parceling Project Communities to be implemented 2009–10*. December 2008. Orbicon.
- Hartvigsen, M. (2009): *Moldova Land Re-parceling Pilot Project – Final Report (February)* Niras, Orbicon, ACSA and Terra Institute.
- Hartvigsen, M. (2010): *International Consultant on Land Re-Parceling input to the preparation of a National Land Re-parceling Strategy – Final Report*, September 2010. Orbicon.
- National Bureau of Statistics (2011): *Preliminary result of General Agricultural Census*. Chişinău, National Bureau of Statistics of the Republic of Moldova.
- World Bank (2005): *Moldova Agricultural Policy Notes, Agricultural Land*. August 2005.

PART 2

Land reform and its outcome

Land reforms were high on the political agenda at the beginning of transition from 1989 and onwards. Part 2 is about the land reforms and their outcome in the 25 study countries. It has often been stated that land fragmentation and small farm sizes have emerged as a side effect of land reform. This is certainly also the situation in many of the CEE countries while, in other countries in the region, the land use has largely remained unaffected by the land reforms.

In **Chapter 5**, the land reform approaches applied in each of the 25 study countries are analyzed and discussed. Furthermore, the farm structures and land fragmentation in each country after the land reforms is assessed. The chapter is technically cleared and published by FAO as Land Tenure Working Paper 24.

Chapter 6 then establishes the first complete overview of the land reform approaches applied in the CEE countries. In order to understand the nature of land fragmentation in CEE, the theory and definitions of land fragmentation is discussed. With the conceptual framework on land fragmentation in place, the current situation in the study countries with land fragmentation and farm structures is discussed and an overview is provided. The chapter is a peer-reviewed paper published in Land Use Policy 36 (2014).

CHAPTER 5

5 LAND REFORM IN CENTRAL AND EASTERN EUROPE AFTER 1989 AND ITS OUTCOME IN THE FORM OF FARM STRUCTURES AND LAND FRAGMENTATION

Paper published as

FAO Land Tenure Working Paper 24

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Note:

The author has worked as a consultant to FAO on land consolidation projects in Albania, Armenia, Bosnia and Herzegovina, Lithuania and Moldova, and in addition has used the FAO training materials on land consolidation in other projects in Croatia and Kosovo. The author has also contributed to FAO publications on land consolidation, including FAO Land Tenure Studies 6 (The design of land consolidation pilot projects in Central and Eastern Europe, 2003), FAO Land Tenure Manuals 1 (Operations manual for land consolidation pilot projects in Central and Eastern Europe, 2004), and FAO Land Tenure Policy Series 1 (Opportunities to mainstream land consolidation in rural development programmes of the European Union, 2008).

List of Abbreviations

APA	Agricultural Property Agency (Poland)
BVVG	Bodenverwertungs- und verwaltungs GmbH
CAE	Collective Agricultural Enterprise (Ukraine)
CIS	Commonwealth of Independent States
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
SOE	Socially Owned Enterprise (ex-Yugoslavia countries)
UAA	Utilized Agricultural Area
UNMIK	The United Nations Interim Administration Mission in Kosovo
WB	World Bank
WWI	World War I
WWII	World War II

5.1 INTRODUCTION

The countries in Central and Eastern Europe began a remarkable transition from a centrally-planned economy towards a market economy in 1989 when the Berlin Wall fell and the Iron Curtain lifted. Land reforms with the objective to privatize state-owned agricultural land, managed by large-scale collective and state farms, were high on the political agenda in most countries of the region at the beginning of the transition. More than 20 years later the stage of implementation of land reform varies. Some countries had already finalized land reform in the mid-1990s, others are in the process, and a few have still not taken any significant steps.



Figure 5.1: The 25 study countries in Central and Eastern Europe.

A number of books and research papers have been published, especially in the late 1990s and early 2000s, on land reform in individual countries, and a few comprehensive overviews have been provided (e.g. Swinnen et al., 1997; Wegren, 1998; Giovarelli and Bledsoe, 2001; Lerman et al., 2004; Sedik and Lerman,

2008). These studies indicate both some general patterns and a wide variation in land reform processes and results between Central and Eastern European countries.⁹⁸

It has often been stated that land fragmentation and farm structures characterized by small agricultural holdings and farms divided in a large number of parcels have been a side-effect of land reform in Central and Eastern European countries (e.g. Rembold, 2003), and during the last two decades more than half of the countries in the region have introduced land consolidation instruments to address these structural problems in the agricultural sector.⁹⁹ So far, however, only a few studies on land fragmentation in the Central and Eastern European context have been conducted (Sabates-Wheeler, 2002; Van Dijk, 2003) and no comprehensive overview of the linkage between the chosen land reform approach and land fragmentation has been presented.

This paper reviews the land reform approaches that have been applied in 25 countries, from the Baltic and Central European countries in the West, to Russia and the small Transcaucasus countries in the east, and to the Balkan countries in the south (figure 5.1). It further describes the farm structures and land fragmentation that emerged as a result of the reforms.

This paper thus provides a basis for answering research questions such as: *What is the linkage between the chosen land reform approach and the outcome in the form of farm structure and land fragmentation? Under which conditions is land fragmentation a barrier for development of the rural land market and the agricultural and rural sector in general?*

5.2 METHODOLOGY

Land reform in the countries in Central and Eastern Europe (and more specifically the land reform approaches applied in the countries, and their outcome in the form of farm structures and land fragmentation) has been analysed in several papers and books. The level of documentation on land reform and its outcome varies considerably from country to country, with much information being available from Central European countries, such as Hungary and the Czech Republic, and as well as from Albania and Russia, and with very little information being available for the countries of ex-Yugoslavia (except Slovenia) and for the

⁹⁸ Swinnen, J. & Mathijs, E. (1997): *Agricultural privatisation, land reform and farm restructuring in Central and Eastern Europe: A comparative analysis*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 367.

⁹⁹ Hartvigsen, M. (2006): *Land Consolidation in Central and Eastern European Countries*. Conference paper for FIG Congress, Munich 2006.

three Transcaucasus countries. In this paper, the 25 countries have been divided into six groups based on geography and similarities in background and the aim has been, to the extent possible, to provide the same level of detail for all countries.

There are two fundamentally different aspects of land fragmentation, i.e. ownership fragmentation and use fragmentation, and the impact of land fragmentation on the rural land market and agricultural development lies in the intersection between the ownership and use of agricultural land. Thus, it would be most desirable to have comparable quantitative data on both the ownership as well as the use of agricultural land in the study countries in order to give a fully comprehensive answer to the research question of the impact of land fragmentation. As for the ownership structure in the countries in relation to land fragmentation, it would be desirable, at a minimum, to have data about sizes of agricultural holdings (e.g. average size of agricultural holding) and the average number of agricultural parcels per agricultural holding. In this paper, the term “agricultural holding” is understood as the agricultural land owned by one entity, whether a natural or legal person. The “farm”, on the other hand, includes the agricultural land actually utilized by the farm including land leased in and leased out. For the use of the land, at least comparable data about farm sizes and the leasing of agricultural land would be desirable. For the latter, the share of leased land of the utilized agricultural land is available for the EU member countries.¹⁰⁰

The study has unfortunately shown that all the desirable data are not available for all countries, and where data are available, they are often not fully comparable. Other studies of land reform in Central and Eastern European countries have faced similar problems.¹⁰¹ Obviously, all 25 study countries have statistics on the ownership of agricultural land as well as farm statistics. For the EU member countries, farm statistics are available from Eurostat. The problem with the EU agricultural statistics in the context of the study is that the focus of the statistics is almost exclusively on the actual use of the land (i.e. farms) and not on landownership. For the non-EU study countries the main problem is difficulties in comparability. In the study, the lack of fully comparable quantitative data in all countries has been overcome by supplementing the available quantitative data with qualitative descriptions and analysis. Where no other data or formal references have been available, personal communication from key persons in the countries has been used as a source of information.

¹⁰⁰ Swinnen, J. & Vranken, L. (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

¹⁰¹ Swinnen, J. & Mathijs, E. (1997): *Agricultural privatisation, land reform and farm restructuring in Central and Eastern Europe: A comparative analysis*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 347.

5.3 LAND REFORM IN CENTRAL AND EASTERN EUROPE SINCE 1989

In the following sections, the land reform approaches that have been applied in the 25 study countries from 1989 onwards are described and analyzed together with the farm structures and the level of land fragmentation that has emerged in each country. The six country groups are:

- The Baltic countries (section 5.3.1);
- The Central European countries (section 5.3.2);
- The Balkan countries, except former Yugoslavia (section 5.3.3);
- The former Yugoslavia countries (section 5.3.4);
- The Western CIS countries (section 5.3.5);
- The Transcaucasus countries (section 5.3.6).

5.3.1 THE BALTIC COUNTRIES

The three Baltic countries, **Lithuania, Latvia and Estonia**, began their transition to a market economy after they regained their independence in 1991. In 2004, all three countries became members of the European Union.

The three Baltic countries all got their independence in 1918 in the aftermath of World War I (WWI). The choices of land reform approach after 1990 were, in all three countries, very much determined by land reforms that had been conducted in the period of 1920-40. These inter-war reforms involved the expropriation of land from large private estates.¹⁰² The land was redistributed to those who had served in the national armies, the landless and existing smallholders. By the end of the 1930s, about 140,000 family farms had developed in Estonia, more than 275,000 in Latvia and more than 287,000 in Lithuania. Average farm sizes varied between 15 and 23 hectares (ha) in the three countries. Thus, the inter-war reforms resulted in what was at that time a modern agricultural structure dominated by commercial family farms.

The reform and agricultural development process was interrupted in 1940 by World War II (WWII). After the end of WWII, the Baltic States were incorporated into the Soviet Union as the Soviet Socialist Republics of Estonia, Latvia and Lithuania. During the Soviet era all agricultural land was owned by the State and the agricultural production was organized in large-scale collective and state farms.

¹⁰² Meyers, W.H. and Kazlauskienė, N. (1998): *Land reform in Estonia, Latvia and Lithuania – A comparative analysis*. In Wegren, S (ed.): *Land Reform in the Former Soviet Union and Eastern Europe*, p. 87.

In all three countries, land had been formally expropriated without compensation from its private owners during the collectivization process.¹⁰³

After the collapse of the Soviet Union, Lithuania, Latvia and Estonia declared their independence in 1991 and the transition to a market economy began. In fact, the land reform process in all three Baltic countries had already started under Soviet Union legislation in 1989.¹⁰⁴ From 1989, individual household farms were allowed to increase from 0.5 ha to 2 ha and even to 3 ha for agricultural employees. In Estonia, an even larger increase without an exact limit was allowed. The land remained state-owned and only the use rights were transferred to the individuals. In the mid-1990s, these household plots became eligible for privatization in favour of the current users who were allowed to purchase the land from the State with cash or compensation vouchers from the restitution process.

The main land reform process began in Lithuania, Latvia and Estonia in 1991 after the three countries regained their independence. The overall political goal of land reform in all three countries has been to re-establish the pre-WWII farm structures based on private landownership and strong family farms.¹⁰⁵ Thus, the restitution of the property rights as they were in 1940 was chosen as the main approach of land reform in the three Baltic countries.

In all three countries, land administration systems were re-established in parallel with the land reform process after more than 40 years of State ownership.

5.3.1.1 Lithuania

In Lithuania, the main laws for the regulation of the land reform were the *law on land reform* and the *law on the procedure and conditions of the restoration of the rights of ownership to the existing real property*.¹⁰⁶ Restitution could take place in kind (i.e. to get back the old family land); in equivalent (i.e. to get other land); or through compensation (i.e. in money). The National Land Service under the Lithuanian Ministry of Agriculture has had the overall responsibility for the land reform process.

The land restitution process in Lithuania consisted of the following steps:

- Analysis of existing land use situation

¹⁰³ Giovarelli, R and Bledsoe, D. (2001). *Land Reform in Eastern Europe*. FAO, p. 37.

¹⁰⁴ Meyers, W.H and Kazlauskienė, N. (1998): *Land reform in Estonia, Latvia and Lithuania – A comparative analysis*. In Wegren, S (edit): *Land Reform in the Former Soviet Union and Eastern Europe*, p. 90.

¹⁰⁵ *Ibid.*, p. 89.

¹⁰⁶ Daugaliene, V. (2004): *Preparation for Land Consolidation in Lithuania*. In *Modern Land Consolidation - Proceedings of a Symposium held by FIG Commission 7 on 10 and 11 September 2004 in Volvic, France*. FIG, p. 126.

- Preparatory land management works
- Preparation of the Land Reform Land Management Plans
- Publicity procedure and approval of the plan
- Surveying in the fields
- Preparation of legal documentation of ownership
- Approval by the notary and registration in the State Land Cadastre



Family farm in Lithuania using privatized building of former collective farm (2002).

For each cadastre area, of which there are a total of 1,403 in Lithuania, a *Land Reform Land Management Plan* was prepared based on the claims for restitution received from former landowners or their heirs. The plan was prepared in close dialogue with those eligible for restitution who had chosen restitution in kind and in equivalent. Due to physical changes in the field during the half century under Soviet rule, it was often not possible to restitute exactly the same parcel boundaries as owned by the family before WWII. The preparation of the restitution plan was often also complicated by the possibility for restitution in equivalent land. This option allowed the eligible persons to move their land rights from one part of the country to another (e.g. from where the family land was in 1940 to where the heirs lived at the time of restitution).

The *Land Reform Land Management Plans* prepared from 1995 were approved by the County Governors. From 1991 until 2008, ownership rights have been restituted to nearly four million ha or 97 percent of land in rural areas.¹⁰⁷ In total, 715,000 people claimed land to be restituted.

The land reform process in Lithuania was slowed down by many amendments to the legislation as the political majorities shifted in the Parliament. Thus, both deadlines and people eligible for restitution changed many times throughout the process.¹⁰⁸ Also, the maximum area of land to be restituted increased over time.¹⁰⁹ When the process began in 1991, a maximum of 50 ha of agricultural land and 10 ha of forest could be restituted. In 1995, the maximum size increased to 80 ha of agricultural land and 25 ha of forest. Finally, in 1997 the maximum area of land that could be restituted was increased to 150 ha.

It is expected that around 400,000 ha of state land will be left unprivatized after the complete finalization of the land reform process.¹¹⁰ Most of this State land reserve will be agricultural land in rural areas, often divided into small and badly shaped fragmented parcels. It is furthermore expected that the land reserve that is often leased out to private farmers will be subject to future privatization.

According to the most recent data (2011), the average agricultural holding size is 5.3 ha and the average size of agricultural parcels is 2.9 ha. Thus, the average number of parcels per holding is around 1.8.¹¹¹ In 2005, 53 percent of the total utilized agricultural area (UAA) was used through lease agreements.¹¹²

5.3.1.2 Latvia

In Latvia, landownership rights were restituted on the basis of the ownership situation as it was on 21 July, 1940.¹¹³ Cadastral maps and the Land Book records from the period of 1924-1940 were used as the basis for restitution.¹¹⁴ Latvia restituted land exclusively to native Latvians. Land reform in Latvia has been regulated by a number of laws beginning with the June 1990 *decision on agrarian*

¹⁰⁷ *National Land Service under the Ministry of Agriculture* (2008) (information brochure), p.8.

¹⁰⁸ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 39.

¹⁰⁹ Daugaliene, V. (2007): *Legal framework of land management in Lithuania after 1990*. Conference paper for UNECE WPLA workshop in Munich, May 2007, p. 5-6.

¹¹⁰ *National Land Consolidation Strategy for Lithuania* (2006), p. 3.

¹¹¹ Audrius Petkevicius (Director, Land Policy Department, Ministry of Agriculture, Lithuania), personal communication, December 2012.

¹¹² Swinnen, J & Vranken, L, (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

¹¹³ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 38.

¹¹⁴ ACE project (1999): *The Development of Land Markets in Central and Eastern Europe – Final Report*, p. 152-156.

reform in the Republic of Latvia of the Supreme Soviet of the Republic of Latvia. This stated that the former landowners and their heirs, together with land users, could submit claims for the allocation of land for use. In 1994, the *law on privatization of state and municipal property* was adopted. The deadline for submission of restitution claims was set for November 1996.

The land reform in Latvia had two phases. First, land use rights (not ownership rights) were granted to the claimants by local Land Commissions. Second, landownership rights were restituted to the former owners or their legal heirs or users who had the right to purchase land by paying with vouchers. Vouchers were introduced as compensation and were based on the time each citizen had lived in Latvia. Vouchers were freely tradable at a market price. Those who in the initial stage were given the use rights to agricultural land had in the second stage the right to purchase the state land for the value of the property.

The former owners or their heirs had their original holdings returned where possible. Alternatively, they could choose to receive an equivalent landholding of similar value in a different location, or to receive compensation in money for the value of the lost property. Compensation has been estimated on the basis of the area of land, type of land use and location of the property. Agricultural land was restituted up to a maximum limit of 100 ha. In Latvia the claims for restitution exceeded the land available by more than 25 percent.¹¹⁵

According to the most recent data (2012), the average size of agricultural land parcels in Latvia is relatively large, around 7.3 ha.¹¹⁶ Data on the average size of agricultural holdings and average number of parcels per holding are not available. In 2005, 24 percent of the total UAA was used through lease agreements.¹¹⁷

5.3.1.3 Estonia

In Estonia, the Estonian Land Board, together with local government, has been responsible for the land reform process. At the end of 2008, almost 90 percent of the land eligible for restitution and privatization had been registered in the cadastre.¹¹⁸ In Estonia, the objective of land reform was broader than in the two other Baltic countries. Restitution to former owners was one objective, but so too

¹¹⁵ Meyers, W.H and Kazlauskienė, N. (1998): *Land reform in Estonia, Latvia and Lithuania – A comparative analysis*. In Wegren, S (edit): *Land Reform in the Former Soviet Union and Eastern Europe*, p. 95.

¹¹⁶ Daiga Parsova (Ministry of Regional Development and Local Government, Latvia), personal communication.

¹¹⁷ Swinnen, J. & Vranken, L, (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

¹¹⁸ Jürgenson, E and Maasikamäe, S. (2009): *Progress of Land Reform in Estonian Rural Municipalities – Results of Preliminary Study*. *Rural Land Scape trends*, p. 126.

was the privatization through sale of state land, as well as the transfer of state land into the ownership of local government, and the determination of the land to be retained in State ownership.¹¹⁹ These different objectives of land reform were all part of the same process. As a result, the land reform process was probably more complicated in Estonia than in the other two countries.¹²⁰ Many parcels were claimed by more than one owner.

Unfortunately, data on the average size of agricultural holdings and on the average number of parcels per ha are not available for Estonia. In 2005, 54 percent of the total UAA was used through lease agreements.¹²¹

5.3.1.4 Conclusions

After more than 20 years of land reform in Lithuania, Latvia and Estonia, the land reform process is slowly coming to an end. The three Baltic countries chose to reconstitute the land rights to agricultural and forest land as they were in 1940 before WWII and the subsequent occupation by the Soviet Union. In addition, from 1989, state land was privatized to individuals in the form of household plots, first through the allocation of use rights and later through purchase from the State. When restitution in physical parcels was not possible, the claimants were entitled to receive other agricultural state land of equivalent value or financial compensation. In Estonia, privatization of state land through sale was an integrated part of the land reform process and equally important as the restitution to former owners. This was not the same case in Latvia and Lithuania, although in Latvia the land users were given the right to purchase the state land they used.

The restitution of land to the pre-WWII owners and their successors in the three Baltic countries resulted, as intended, in a complete breakup of the large-scale collective and state farms, and in an ownership structure similar to that before 1940. In Lithuania in 2011, the average size of an agricultural holding, defined as the agricultural land owned by one entity (i.e. natural or legal person), was 5.3 ha, often divided into 2-3 parcels.¹²² In Lithuania in 2005, 53 percent of the utilized agricultural land (UAA) was used through lease agreements and not by the

¹¹⁹ Jürgenson, E et al. (2010): *The Impact of Land Fund Characteristics on the Land Reform Results in Estonian Rural Municipalities*. Technologijos Mokslai, p. 65.

¹²⁰ Meyers, W.H and Kazlauskienė, N. (1998): *Land reform in Estonia, Latvia and Lithuania – A comparative analysis*. In Wegren, S (edit): *Land Reform in the Former Soviet Union and Eastern Europe*, p. 95.

¹²¹ Swinnen, J. & Vranken, L, (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

¹²² Audrius Petkevicius (Director, Land Policy Department, Ministry of Agriculture, Lithuania), personal communication.

owners.¹²³ Today, farm structures in the Baltic countries are dominated by a mix of large corporate farms and medium-large sized family farms. Household plots are often used for subsistence farming. Land fragmentation, to a moderate degree, has emerged as a side effect of land reform.

5.3.2 THE CENTRAL EUROPEAN COUNTRIES

After 1989, the Central European countries, the **Czech Republic, Slovakia, Hungary, Poland** and **Eastern Germany**, began a transition towards a market economy. Eastern Germany became a member of the European Union already in 1990 through German reunification. The Czech Republic and Slovakia became independent in 1993 when Czechoslovakia peacefully split into the two countries. The Czech Republic, Slovakia, Hungary and Poland all became members of the European Union in 2004.

The countries chose approaches to land reform that were sometimes similar and at other times significantly different.

Czechoslovakia became an independent state in 1918 after WWI. Before WWII, the typical farm in what is now the Czech Republic cultivated 20-50 ha. In Slovakia, where the Napoleonic code for inheritance was applied, the typical farm size was much smaller, 2-5 ha.¹²⁴ After WWII, in 1946 the new left-wing government organized a land reform where land was expropriated from large estates, the Roman Catholic church and from German farmers (in Sudeten) without compensation. This land was divided into small units and sold to small-scale farmers. In 1948, the communist government took power and the collectivization of the agricultural sector started from the beginning of the 1950s through the creation of two different types of large-scale farms: state farms and agricultural production cooperatives.¹²⁵ The agricultural land that was used to form the state farms was expropriated or otherwise nationalized from the private owners. This amounted to 39 percent of the agricultural land.¹²⁶ With the cooperatives, in most cases the land of the members of the cooperatives was never legally expropriated and the private “owners” often remained on the land registers.

¹²³ Swinnen, J. & Vranken, L. (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

¹²⁴ Kabat, L. & Hagedorn, K. (1997): *Privatisation and decollectivisation policies and resulting structural changes of agriculture in Slovakia*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 231.

¹²⁵ Travnicek, Z. et al, 2002: *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from the Czech Republic*. FAO 2002, p. 3-4.

¹²⁶ Rättinger, T & Rabinowicz, E: *Changes in farming structures in the Czech Republic as a result of land reform and privatization*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 63-65.

However, the private owners were often forced to give up individual farming and join the cooperatives with their land. During the 1970s, cooperatives and state farms were merged into larger agricultural units with an average farm size of around 3,000 ha.

5.3.2.1 Czech Republic

In the Czech Republic (then Czechoslovakia), the land reform process began after the adoption of the *land law* in 1991 and *the collective farm transformation law* in 1992. The chosen land reform approach was to reconstitute the ownership structure as it was in 1948 before the communist government took power, but after the land reform that was conducted 1946-1947. Had the reference date been 1945 rather than 1948, this would have implied restituting land to Sudeten Germans who emigrated after WWII.¹²⁷

As land and other property of the members of the cooperatives were often not formally expropriated, in most cases after 1991 the formal owners and their successors were able to take possession of their land through an informal procedure of withdrawal of their land from the cooperative farms, and without any formal or legal procedures.

With the state farms, where in most cases the land had been formally expropriated from the former private owners, a formal and legal restitution procedure was conducted. The Land Fund was established in 1992 and, in the initial stage of the restitution process, the administration of the state agricultural land of the state farms was transferred to the Land Fund to enable restitution of ownership rights to the former owners. Only Czech citizens were eligible to have land restituted and initially restitution was also limited to persons with permanent residence in the country. The last restriction was lifted by the Constitutional Court in 1995.¹²⁸ In most cases, the restitution procedure for state agricultural land was administrative. If the Land Fund recognized the claim, the land was given back and the land rights were registered. Only in cases of disagreements about the legitimacy or extent of the claim were the Ministry of Agriculture or the Court involved. If physical restitution was not possible, the eligible person was compensated. In total, 231,000 restitution claims were submitted between 1991 and 2003, of which 98.6 percent were resolved by the end of 2003.¹²⁹

¹²⁷ Swinnen, J. & Mathijs, E. (1997): *Agricultural privatisation, land reform and farm restructuring in Central and Eastern Europe: A comparative analysis*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 341.

¹²⁸ Ibid. p. 70.

¹²⁹ Trnka, J. & Pivcova, J. (2005): *The situation of land management and reparcelling in the Czech Republic*. Paper for FAO land consolidation workshop, Prague 2005.

Even though from 1991 the *land law* opened up the possibility for private family farming, the land reform process in the Czech Republic resulted in farm structures still completely dominated by large-scale corporate farms. What happened in practice was often that the large collective and state farms broke up into smaller (but still large) co-operative farms and continued “business as usual” through lease agreements with the private landowners who had withdrawn their land from the cooperatives or had their land restituted.¹³⁰ In 2005, as much as 86 percent of the total utilized agricultural land was leased from the owners.¹³¹

The land reform process in the Czech Republic resulted in the re-establishment of the highly fragmented ownership structure that existed before 1948, with an average size of agricultural parcels of 0.4 ha.¹³² Co-ownership is widespread and this “hidden” internal fragmentation continues through inheritance. Many of these co-ownership issues have not been resolved between the co-owners. Thus, the usage and the ownership of the agricultural land have been almost completely separated. Most of the owners who got back the land after the land reform process have no interest in agriculture and, due to the fragmented ownership and widespread co-ownership, they often have in practice only the option to continue to lease out the land to the large-scale corporate farms that replaced the collective or state farm in the area. This is further aggravated because there is no evidence on the ground of the parcels, and no boundary data exists.¹³³

In 2007, about 0.45 million ha (or 13 percent of the utilized agricultural land) remained under the administration of the Land Fund. Of this, around 0.26 million ha were under privatization through sale.¹³⁴ According to the *land sale act*, municipalities and leaseholders have preference when state land is privatized through sale.

5.3.2.2 Slovakia

In Slovakia (then Czechoslovakia), land reform followed the same track as in the Czech Republic until the two countries were created in 1993. Land reform began after the adoption of the *land law* in 1991 and the *collective farm transformation law* in 1992. The chosen land reform approach was to reconstitute the ownership structure as it was in 1948 before the communist government took power but after

¹³⁰ Travnicek, Z. et al, (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from the Czech Republic*. FAO, p. 4.

¹³¹ Swinnen, J. & Vranken, L, (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

¹³² Ibid. p. 26.

¹³³ Dale, P & Baldwin, R, (2000): *Lessons Learnt from Emerging Land Markets in Central and Eastern Europe*. Conference paper from FIG Working Week, Prague 2000, p. 3.

¹³⁴ Ciaian, P. et al., (2012): *Sales Market Regulations for Agricultural Land in the EU Member States and Candidate Countries*. Factor Markets Working Paper no. 14, p. 20.

the land reform that was conducted 1946-1947. As in the Czech Republic, land and other property of the members of the cooperatives were often not formally expropriated and the formal owners and their successors were, in most cases, able to take possession of their land through an informal procedure by withdrawing their land from the cooperative farms, and without any formal or legal procedures.

The state agricultural land was restituted in a formal process. The deadline to claim formal restitution was the end of January 1993. The actual possessor of the land (often a cooperative farm or the state) had 60 days to respond to the claim and conclude a contract to return the property.¹³⁵ In total, around 124,000 original owners claimed restitution of 180,000 ha in total.¹³⁶ The size of the claimed land was less than two ha on average.

The cooperatives had until the beginning of 1993 to transform into private legal entities with transparent ownership relations.¹³⁷ Often new “private” cooperatives were formed and in practice they continued the farming activities of the previous socialist cooperatives through leasing agreements with the private owners who had withdrawn their land from the former cooperatives or who had got the land rights back through restitution. The agricultural policy did not encourage the breakup of the large-scale corporate farms.

The farm structure in Slovakia is still completely dominated by large-scale corporate farms that took over after the socialist cooperatives. In 2005, as much as 91 percent of the UAA was farmed on leased land.¹³⁸ This is the highest share in all 25 countries in the study.

The land reform process in Slovakia resulted in the re-establishment of the highly fragmented ownership structure that existed before 1948, with an average size of agricultural land parcels of 0.45 ha and an average of 12-15 co-owners for each parcel.¹³⁹ Dale and Baldwin (2000) state that “a single field of twenty hectares may have more than three hundred owners and over a thousand co-owners”.¹⁴⁰ The co-ownership of land is typically a bottleneck for land market development as it is

¹³⁵ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 36.

¹³⁶ Kabat, L. & Hagedorn, K, (1997): *Privatisation and decollectivisation policies and resulting structural changes of agriculture in Slovakia*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 229-232 and p. 253.

¹³⁷ *Ibid.*, p. 229-232 and p. 248.

¹³⁸ Swinnen, J. & Vranken, L, (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

¹³⁹ Lazur, R., (2005): *Slovakia case study – land consolidation in Slovakia*. Paper for FAO land consolidation workshop, Prague 2005.

¹⁴⁰ Dale, P & Baldwin, R, (2000): *Lessons Learnt from Emerging Land Markets in Central and Eastern Europe*. Conference paper from FIG Working Week, Prague 2000, p. 4.

often impossible to dispose of the land because of the need for agreement of all the co-owners. So the leasing out to the large corporate farms that succeeded the cooperatives and state farms continues. In addition, Slovakia has severe problems with unknown owners of agricultural land.

In 2006, seven percent of UAA remained state owned, and with a further 438,000 ha of UAA (as much as 23 percent) with unknown ownership. Both categories are managed by the Land Fund and are often leased out to the large corporate farms.¹⁴¹ State land may be privatized through sale, but this is not the case of land with unknown ownership.

The ownership of agricultural land is highly fragmented as described above. The use structure, however, is not fragmented at all as the large-scale corporations continue to operate on the large fields established after WWII, and is now based on lease agreements with often hundreds of private owners of small fragmented agricultural parcels. In this case, fragmentation is mainly a problem for the land registers and for private farmers who may want to establish small family farms based on owned land but it is not a practical problem for the agricultural production on the land.

5.3.2.3 Hungary

Before WWII, the farm structures in Hungary were characterized by an extreme concentration of land in large estates. Some 0.1 percent of landowners owned 30 percent of all agricultural land and there were 1.8 million landless peasants.¹⁴²

After WWII, the first wave of land reform in Hungary began as early as March 1945, and all estates larger than 575 ha were expropriated and other farms were reduced to a maximum of 57 ha by confiscation. Livestock and production assets were confiscated with the land. In total, nearly 3 million ha were confiscated and distributed to 725,000 landless workers and small farmers. The new holdings were limited to 8.5 ha.

In 1948, the second wave of land reform began when 170,000 ha of leased land were transferred from large farmers to farm workers, small farmers and cooperative farms for low-rent payments. The transition from individual farming to cooperatives and state farms was a lengthy and gradual process. In 1950, cooperatives and state farms controlled 14 percent of the total agricultural land. In 1966, this figure had risen to 86 percent. In Hungary, however, the socialist

¹⁴¹ Ciaian, P. et al., (2012): *Sales Market Regulations for Agricultural Land in the EU Member States and Candidate Countries*. Factor Markets Working Paper no. 14, p. 20.

¹⁴² Csaki, C. & Lerman Z. (1998): *Land reform and farm restructuring in Hungary during the 1990s*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*, p. 226.

reform never resulted in the total elimination of private ownership of agricultural land. Many individual farmers joined the cooperatives with their land, some by force and others participated voluntarily. In many cases the cooperatives purchased the land when the members died or retired from farming. In addition, five percent of the agricultural land remained in private farms outside the cooperatives and continued to be used for individual farming. Also the members and workers in the cooperatives were allowed to farm individual household plots of about 0.5 ha on average through use rights from the cooperatives or state farms.

The land reform process in Hungary is unique among the Central and Eastern European countries, and it began with the adoption of the *compensation law* in 1991. According to the law, Hungarian citizens whose property was expropriated after June 1949 are entitled to compensation.¹⁴³ The *compensation law* covered not only agricultural land but all assets nationalized from the citizens between 1949 and the beginning of the transition in 1990. Thus, Hungary decided for compensation instead of physical restitution and the private owners who had land expropriated without compensation between 1945 and 1949 were not compensated. In addition to compensating former landowners, land was distributed to the current groups of users, such as landless cooperative members and workers (employees) of cooperatives and state farms.

The instrument for compensation was coupons or vouchers. The value of the compensation vouchers used “gold crowns”, a traditional Austro-Hungarian unit of land quality. The vouchers could be used to purchase state property such as apartments, shares in state enterprises and also agricultural land, and the vouchers could be freely traded on the market. The right to purchase agricultural land, however, was limited to the original receiver of the voucher. According to the *cooperative transition law* adopted in 1992, cooperative farms were required to set aside for compensation purposes the land acquired by the cooperatives after June 1949. Then the land was auctioned in individual parcels and purchased with the vouchers as payment. Former landowners who wanted to get back agricultural land participated in the auctions. The vouchers received by the former owners were based on an estimated value of the lost property.¹⁴⁴ For a property with a value up to 200,000 forint (around 10 ha of average agricultural land), the property was compensated 100 percent, and with a digressive scale of compensation thereafter.

In addition to compensation of the former landowners, land was “sold” to landless members of the cooperatives and employees. Cooperative members were allocated

¹⁴³ Ibid., p. 228-230.

¹⁴⁴ Mathijs, E. and Meszaros, S. (1997): *Privatisation and restructuring of Hungarian agriculture*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 164.

30 gold crowns and workers received 20, which equals respectively 1.5 ha and 1 ha of average quality of agricultural land. This land was distributed without auction and “paid” for with the gold crown vouchers. In fact, the “sale” of state land to landless cooperative members and employees was similar to the distribution in physical parcels which took place in a number of other countries in Central and Eastern Europe (e.g. Romania).

The compensation programme involved 5.6 million ha in total.¹⁴⁵ Some 2.7 million ha were transferred to private ownership through the compensation auctions. In addition, 1.5 million new owners (i.e. landless cooperative members and employees) received three million ha through sale of state land for vouchers / distribution. The remaining collective farm land was distributed to the members of the collective farms. Hungary is different from most of the other study countries as only natural persons are allowed to own agricultural land.¹⁴⁶ Ownership of agricultural land is limited to 300 ha.

In Hungary, the outcome of the land reform is a highly fragmented ownership structure, often with relatively small parcels in long and thin strips. Farmers purchasing land with their vouchers at the auctions would often end up with 2-3 ha split into several narrow parcels in different locations.¹⁴⁷ The average size of agricultural holdings is 1.1 ha.¹⁴⁸ Data on the average number of parcels per holding are not available. Around 10 percent of all agricultural parcels have more than one owner (i.e. held by co-owners).

The farm structures in Hungary today are more mixed than in most of the study countries with the presence of both small-scale subsistence family farms; medium- and large-sized commercial family farmers; and large corporate farms operating fully on leased land. Leasing of land is common and 59 percent of the UAA in Hungary in 2005 was farmed on leased land.¹⁴⁹

After agricultural land was allocated to private owners in the land reform process in the first half of the 1990s, many of the owners or their heirs left the rural areas and are now living in urban areas and are not involved in agriculture. The land

¹⁴⁵ ACE project (1999): *The Development of Land Markets in Central and Eastern Europe – Final Report*, p. 134-135.

¹⁴⁶ Mathijs, E. and Meszaros, S. (1997): *Privatisation and restructuring of Hungarian agriculture*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 168.

¹⁴⁷ Lerman, Z. et al. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, p. 89.

¹⁴⁸ Andras Ossko (Deputy Director, Budapest Land Office), personal communication, December 2012.

¹⁴⁹ Swinnen, J. & Vranken, L. (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

market in Hungary is weak and the land of the small agricultural holdings is often leased out or simply abandoned.¹⁵⁰ Land prices are low due to weak demand and the absent landowners often leave the land abandoned while they wait for higher land prices.

5.3.2.4 Poland

In Poland, the starting point for land reform varied from the situation in most of the other study countries because, throughout the socialist era, as much as 75 percent of the agricultural land remained in private ownership, as well as in private use, in the form of individual family farms.¹⁵¹

Poland's borders changed dramatically after WWII following the decisions made at the Potsdam Conference in 1945, and the eastern part of the territory was annexed by the Soviet Union (today being part of Belarus, Ukraine and Lithuania). In return Poland received former German territory east of the Oder-Neisse line in what is today the western and northwestern part of Poland.

As early as September 1944, a post-WWII land reform began in Poland, during which agricultural and forest properties larger than 50 ha (and in some cases 100 ha) were expropriated without compensation. The same happened with land belonging to the Roman Catholic Church. After taking over the former German territories, land belonging to Germans was confiscated by the Polish state. About six million ha were distributed to landless farm workers and the private owners of small family farms. Only in the former German territories in the northern and western parts of Poland were state farms established on about 20 percent of the total agricultural land in the country. The post-WWII land reform created and maintained a highly fragmented farm structure in the southern and eastern part of Poland.¹⁵² Even though the agricultural land was privately owned and used, the land market was "frozen" as a result of high transaction costs and complicated administrative transaction procedures. From 1982 onwards, Poland applied land consolidation as an instrument to address the structural problems with land fragmentation and small farm sizes, mainly in the southern and eastern regions of the country, which have the most severe fragmentation problems.¹⁵³ After EU

¹⁵⁰ Burger, A. (2005): *Why is the issue of land ownership still a major concern in East Central European (ECE) transitional countries and particularly in Hungary?* Land Use Policy 23 (2006), p. 572-573.

¹⁵¹ ACE project (1999): *The Development of Land Markets in Central and Eastern Europe – Final Report*, p. 162-170.

¹⁵² Lerman, Z. et al. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, p. 74.

¹⁵³ Zadura, A. et al. (2008): *Land Bank and Land Consolidation (Polish case)*. Workshop paper for FAO land consolidation and land banking workshop in Prague, June 2008.

accession in 2004, land consolidation has been funded under the Rural Development Programme.

The legal foundation for land reform in Poland was the adoption of the *law on utilization of agricultural property of the state treasury* in October 1991. The collectivization efforts in Poland during the socialist era had largely failed due to the post-WWII land reform that established a strong structure of small-scale family farms and thus resistance towards collectivization. For this main reason, Poland made a political decision not to reconstitute the ownership rights to the former owners who lost their land rights after WWII through a land restitution programme as in the case of the other Central European countries.¹⁵⁴ Asking the small-scale farmers to give up the land they had received in the 1940s and 1950s and farmed since then would not have been politically feasible. Another reason for not restituting land to former owners in Poland was that, to a great extent, it would have led to restitution to foreigners, i.e. Germans who emigrated after WWII.¹⁵⁵ Instead, claims for restitution of lost property rights are treated under the existing civil law on a case-by-case basis.¹⁵⁶

Poland is going through a process of privatizing the 20 percent of the agricultural land of the state farms. The Agricultural Property Agency (APA) was established in 1992 to manage this process. In total, 4.7 million ha from liquidated state farms were transferred to the management of APA and were subsequently privatized. The land privatization approach was to sell the state land in auctions and through direct sale to eligible groups. Poland chose to try to use the privatization process to improve the local farm structures by giving preference for purchase to specific groups, mainly commercial family farms. According to the privatization law, the former owners or their heirs have the first right to purchase the land offered for sale by APA. The current leaseholders are granted the second right to purchase. Land can also be sold in restricted auctions to family farmers, often resulting in sales prices much lower than the normal market price.¹⁵⁷

By the end of 2011, 2.2 million ha had been privatized through auctions and direct sale, and 1.46 million ha of the remaining 1.95 million ha had been leased out to

¹⁵⁴ Lerman, Z. et al. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, p. 91.

¹⁵⁵ Swinnen, J. & Mathijs, E. (1997): *Agricultural privatisation, land reform and farm restructuring in Central and Eastern Europe: A comparative analysis*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 341.

¹⁵⁶ Cwiok, T. (2010): *There are many reasons why Poland is not likely to pass an act to restore property to prewar owners or their heirs*. American Investor magazine, 18 June 2010.

¹⁵⁷ Zadura, A. et al. (2008): *Land Bank and Land Consolidation (Polish case)*. Workshop paper for FAO land consolidation and land banking workshop in Prague, June 2008.

private farmers.¹⁵⁸ The privatization process has been hampered by restitution claims submitted under civil law for 450 000 ha in the portfolio of APA. Until 2010, the sale was blocked until the civil restitution cases had been settled. However, from 2010 the sale of state land with restitution claims has been possible with a first right to buy for the former owners and their successors at the normal market price. If the former owner refuses purchase, the land is offered for sale to the leaseholder if the lease contract has lasted for at least 3 years. If the leaseholder also refuses, the property is sold through a tender procedure.

In addition, APA has tasks according to the *law on formation of agricultural system*, which was adopted in 2003. APA also has the function of a State Land Bank and can not only sell state land but can also purchase agricultural land from private owners. When state land is sold, APA has a pre-emption right to buy back the land if the private buyer wants to sell the land within five years from the purchase from the state. The purpose is to reduce speculation and to pursue the structural policy to support the development of mainly commercial family farms.

The result of the land reform process in Poland has, for two main reasons, not fundamentally changed the farm structures that existed before 1990. First, the reform has not affected the 75 percent of the agricultural land that was privately owned and used in individual family farms during the socialist regime. Second, only less than half of the 20 percent of the total agricultural land managed by APA has so far been privatized. The farm structures vary considerably depending on the region. In the southern and eastern regions, small and fragmented family farms with an average farm size of less than six ha dominate. In the northern and western regions, medium-sized commercial family farms dominate, with an average farm size of around 20 ha.¹⁵⁹ In 2010, the private farms utilized an average of 9.8 ha, of which 8.6 ha was agricultural land. For Poland, only 22 percent of the UAA is used through lease agreements.¹⁶⁰ Data on the average size of agricultural holdings and the average number of parcels per holding is not available.

5.3.2.5 Eastern Germany

In Eastern Germany, the transition towards a market economy had a different starting point than all other study countries, as the former German Democratic Republic (GDR) became a member of the European Union as early as 1990 through German reunification.

¹⁵⁸ Jolanta Gorska (APA), personal communication, December 2012.

¹⁵⁹ Zadura, A. et al. (2008): *Land Bank and Land Consolidation (Polish case)*. Workshop paper for FAO land consolidation and land banking workshop in Prague, June 2008.

¹⁶⁰ Swinnen, J. & Vranken, L. (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

Before WWII, Eastern German farm structures were dominated by family farms, with an average farm size of 10.5 ha.¹⁶¹ After WWII, Eastern Germany was occupied by the Soviet Union during 1945-9. In this period, agricultural land belonging to estates larger than 100 ha was expropriated without compensation. The same happened with agricultural land and other properties belonging to those who were said to be “Nazi-leaders” and “war criminals”.¹⁶² A land reserve of 3.3 million ha was established from the confiscated land and land owned by the state before WWII. From this land, 2.2 million ha were distributed to the so-called “new settlers”, i.e. farmers who were refugees from former Eastern provinces of Germany, which had become part of Poland and Russia after the war. On average, these farmers were allocated eight ha. The remaining land reserve was used to establish state farms.

After the establishment of the GDR, a further 700,000 ha were confiscated in 1952-1953 during the first wave of collectivization. In most cases, this land was handed over to agricultural cooperatives founded in those years. Private landowners and farmers were forced to join the cooperatives with their land. In most cases the landowners kept the formal ownership rights to the land. This accounted for as much as about 70 percent of the agricultural land in GDR. The use rights, however, were given completely to the cooperatives. The cooperative farms gradually became dominant in the socialist agricultural structure. By 1989, 4,500 collective farms cultivated 82 percent of all agricultural land and held 75 percent of the livestock. State farms were only of minor importance and cultivated eight percent of the land and held 16 percent of the livestock in 1989. The remaining 10 percent of the agricultural land was, after four decades of collective farming, still operated by small private family farms or used in private household plots with an average size of 0.75 ha.

Germany chose an approach to land reform and land privatization in Eastern Germany where different instruments were applied at the same time. The legal basis for the process was the adoption of the *agricultural adjustment law* and the *law governing unsolved property issues* as well as the *unification treaty* in 1990. The law has been amended several times during the 1990s. In 1992, the BVVG (Bodenverwertungs- und -verwaltungs GmbH) was founded as the implementing

¹⁶¹ Bromley J. and Bromley D. (2012): *Looking East: Reclaiming land and legacy in the former GDR*. IAMO, p.63.

¹⁶² Beckmann, V. and Hagedorn, K. (1997): *Decollectivisation and privatisation policies and resulting structural changes of agriculture in Eastern Germany*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 105-129.

agency responsible for management and privatization of the state-owned agricultural and forest land.¹⁶³

The “simplest” form for land reform was the case where the members of the cooperative farms who had kept the formal ownership rights withdrew from the collective farms with their share of the assets. For around 55 percent of the agricultural land, the use rights were returned to the formal owners without involving BVVG.¹⁶⁴

The *law governing unsolved property issues* contained the main provisions for the restitution of agricultural land where formal ownership rights had been lost between 1949 and 1989, and also where land was expropriated between 1933 and 1945 (e.g. Jewish property). However, the political decision, which was strongly debated, was to not reconstitute the land confiscated during the occupation by the Soviet Union in 1945-9. Instead, the former owners who had lost their property in the first years after WWII were offered the opportunity to buy back a certain amount of agricultural (and/or forest) land at a reduced price through the so-called *land purchase programme*, which was launched after the adoption of the *indemnification and compensation act* in 1994.

In total, approximately 3.2 million ha of state agricultural and forest land were transferred in 1992 to the management of BVVG and were subsequently privatized. From 1992-2012, approximately 300,000 ha of agricultural and forest land were restituted to the former owners, mostly during the 1990s. Former owners were given a deadline of the end of 1992 to claim land for restitution. If possible, the programme restituted the original land to the former owners. If that was not possible, the claimants were entitled to compensation. The land claimed for restitution could not be sold until a decision had been made about the claim, which could take several years. In the meantime, BVVG leased out the land.

In 1993, it was decided to implement the privatization in three phases over a longer period of years. This change was motivated by the general uncertainty regarding the reorganization of ownership, and perhaps most importantly, the political wish to avoid the consequences that a rapid large-scale privatization would have on the weak land market, i.e. a predicted severe drop in land prices.

In the first phase (1992-1996), the land was not sold but leased out for the short and long term (up to 12 years). In the second phase (1996-2010), the *land purchase programme* was implemented, allowing sale of state agricultural and

¹⁶³ Dells, K. (2008): *Management and Privatization of State-Owned Agricultural Land – Case Studies from Eastern Germany and Ukraine*. Conference paper for FIG/FAO/CNG Seminar in Verona, Italy, September 2008, p. 1-7.

¹⁶⁴ Katja Dells (BVVG), personal communication.

forest land at reduced prices to eligible persons who, in addition to the former owners who lost their properties during 1945-1949, also included citizens of the former GDR who had been involved in agriculture. By the end of 2011, 1.2 million ha in total had been sold at reduced prices.¹⁶⁵ In the third phase (from 2005 and still ongoing), the remaining land is being sold at normal market price through tenders. By the end of 2011, 1.34 million ha in total had been sold at market prices, and 291,000 ha of agricultural land and 66,000 ha of forest land were still to be privatized.

The farm structure in Eastern Germany after 20 years of land reform is dominated by medium-sized family farms and large-scale corporate farms, often the successors of the cooperative farms. In 2005, 64 percent of the total utilized agricultural land in Germany was used through lease agreements.¹⁶⁶ The figure for Eastern Germany alone is not available. Data on the average agricultural holding size as well as the average number of parcels per holding are also not available for Eastern Germany. However, a moderate level of fragmentation of landownership has been a side-effect of land reform, especially arising from the withdrawal of land from the cooperative farms and land restitution.

5.3.2.6 Conclusions

Despite the fact that the Czech Republic, Slovakia, Hungary, Poland and Eastern Germany had relatively similar farm structures before WWII, and that all countries implemented land reform immediately after WWII (where agricultural land from large estates was confiscated and distributed or sold to landless peasants, war refugees and small farmers), the land reform approaches chosen in the countries after 1989 did not follow the same path. Hungary and Poland stand out from the other three.

In the Czech Republic, Slovakia and Eastern Germany, for most of the agricultural land that was collectivized and included in the cooperatives in an often forced process, the owners never lost the formal rights of landownership and remained on the land registers. In many cases, the land reform approach after 1989 was simply to withdraw from the cooperatives with the land and other assets that had been affected by the collectivization process that took place, often four decades earlier.

The above mentioned three countries have been through a process of restitution of ownership rights to agricultural land that were formally lost during collectivization. However, none of the countries has restituted agricultural land

¹⁶⁵ BVVG (2011): Company Data 2011.

¹⁶⁶ Swinnen, J. & Vranken, L, (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

confiscated in the land reforms implemented immediately after WWII but only the land that was lost after the communists came to power in the late 1940s. Despite the political aim of justice and “doing right what was done wrong”, it seems that it has not been politically feasible to “roll back” the post-WWII distribution to numerous small family farmers, the landless and war refugees. If restitution of the property was not possible in the form of the original boundaries, the claimants had the opportunity to receive other agricultural land of the same value. Compensation in money for the value of the property was also an option.

Hungary and Poland chose different approaches to land reform compared with the other three countries. In Poland, the collectivization had failed and 75 percent of the agricultural land was both owned and used by small family farms during the socialist era. In the other four countries this was less than 10 percent. Most of the 20 percent of agricultural land in Poland that was used by the state farms was confiscated from the former German owners after WWII. Thus, a relatively small part of the population had a wish for restitution and a mass restitution programme was never adopted in Poland. Instead restitution claims are being dealt with by the Civil Courts. Poland has privatized the state land through sale at tenders or to eligible groups, such as the former owners or leaseholders, and often for prices below market price. In this way Poland has aimed at using the privatization process to improve the agricultural structures.

The land reform process in Hungary is unique among all 25 study countries. Hungary decided on compensation rather than restitution. In addition to compensation to former landowners, land was distributed to the current groups of users, such as landless cooperative members and employees of cooperatives and state farms. The instrument for compensation was vouchers. The state agricultural land was sold at auctions held in the rural communities where the land could be purchased using compensation vouchers.

The land reforms from 1989 and onwards resulted in the Czech Republic and Slovakia having very little change in the farm structures which are still dominated completely by large corporate farms, often the successors of the cooperatives and state farms. However, the land reforms in the two countries resulted in the re-establishment of the highly fragmented ownership structure that existed before 1948 and in the extensive co-ownership of agricultural land. The owners who withdrew from the cooperatives or had their land restituted often have little interest in farming and around 90 percent of the UAA is used through lease. Despite the extreme fragmentation of ownership, the large fields established during collectivization still exist.

Large corporate farms also dominate the farm structures in Eastern Germany where commercial family farms also play a big role. In Poland and Hungary, the

farm structures are mixed with small and fragmented family farms dominating in some regions, and larger commercial family farms and corporate farms dominating in other regions.

5.3.3 BALKAN COUNTRIES EXCEPT THOSE OF FORMER YUGOSLAVIA

In 2003, **Albania**, along with other Western Balkan countries, was identified as potential candidate for EU membership. In 2012, the European Commission recommended that Albania shall be granted EU candidate status, subject to completion of key measures in certain areas. Both **Romania** and **Bulgaria** became EU member countries in 2007. Albania, Romania and Bulgaria chose different approaches to land reform in the 1990s.

5.3.3.1 Albania

The approach chosen for land reform in Albania has its roots in the landownership pattern as it was when Albania became independent in 1912. By then most of the agricultural land was owned by only a few families. All land owned by the Ottoman State and the Sultan was confiscated by the Albanian state after the independence.¹⁶⁷ A land reform in the 1920s, which aimed at distributing four ha of agricultural land to each rural family, failed because of strong resistance from large landlords. Instead the Albanian King's government allowed large landowners and government officials to acquire even more land. In the 1930s a few thousand ha of mainly State land was distributed to small and landless farmers. However, this did not have much effect on large landowners: a relatively few large landlords owned most of the fertile land in the plains in a feudal system when the communist regime took control of Albania in 1944.

In 1945, the communist government nationalized forests and pastures. Agricultural land was not nationalized in the first stage and in fact the 1946 Constitution guaranteed the private ownership of agricultural land with the exception of large estates.¹⁶⁸ The legal attitude towards private landownership shifted gradually and from 1976 all agricultural land was nationalized and private ownership was abolished.

After the communist regime fell in 1990, the land reform process in Albania was launched in 1991 with the adoption of the *law on land*. In order to avoid re-establishing the pre-1945 feudal owner structure, and at the same time respond to food shortages and hunger in rural areas, the agricultural land was distributed in a quick land reform process to the rural families who used to work in the collective

¹⁶⁷ Cunga, A. and Swinnen, J. (1997): *Agricultural privatisation, land reform and farm restructuring in Albania*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 2.

¹⁶⁸ Lerman, Z. et al. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, p. 64-65.

and state farms.^{169 170} In only 18 months, 700,000 ha of arable land that used to be controlled by 420 collective and state farms were distributed to nearly 500,000 family farms, separated into nearly 2 million parcels.¹⁷¹ In 1993, a land registry, the Immovable Property Registration System (IPRS), was established and the registration of the distributed parcels and their ownership began.



Family farm in Terbuf Commune, Albania (2012).

The *law on land* required distribution of all agricultural land (i.e. arable land, vineyard and orchards) of collective and state farms for free. Pastures and forests were not included and have stayed in state ownership. The land distribution process was managed by land commissions elected in each village. Land was to be divided on an equal per capita basis among all persons associated with the

¹⁶⁹ USAID (2011): *USAID Country Profile – Property rights and resource governance – Albania*, p. 3.

¹⁷⁰ Swinnen, J. & Mathijs, E. (1997): *Agricultural privatisation, land reform and farm restructuring in Central and Eastern Europe: A comparative analysis*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 363.

¹⁷¹ Bloch, P. (1998): *Picking up the pieces – consolidation of Albania's radical land reform*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*, p. 189-194.

collective and state farms. The land was allocated to the families, and normally with the head of the family as the registered owner. According to the law it was not allowed to sell or buy the distributed agricultural land. This moratorium was lifted in 1998.¹⁷²

In about half the rural areas, the land reform was conducted in accordance with the legislation. In the other half, mainly in the northern part of Albania and in hilly and mountainous areas in the central part of the country, the land commissions distributed the agricultural land to former owners or according to “old boundaries”.¹⁷³ These distributions recognized the ancestral land rights that enjoyed high levels of social legitimacy and seem to have been officially accepted even though the procedure was not consistent with the adopted land reform legislation.



Fragmented parcels of arable land in Terbuf municipality, Albania (2010).

In 1993, legislation was adopted that granted the pre-1945 landowners the right to claim restitution or to be compensated for lost agricultural land of up to 100 ha. By then, however, most of the land had already been distributed to the former

¹⁷² Lerman, Z. et al. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, p. 76.

¹⁷³ USAID (2011): *USAID Country Profile – Property rights and resource governance – Albania*, p. 1-6.

workers of the collective and state farms. There are expected to be 41,000 claims for restitution and compensation which remain largely unsolved due to changing legislation as well as a lack of available land and funding for restitution. In 2005, it was estimated that funds necessary for compensation of former owners could amount to USD 5 billion.¹⁷⁴

Land reform in Albania resulted in a complete restructuring of the agricultural sector as almost half a million new small family farms were created with an average holding size of 1.05 ha, typically divided into 2-5 parcels, and with an average of 3.3 parcels per holding.¹⁷⁵ Thus, the average parcel size after land reform was around 0.3 ha and the fields are rarely contiguous. The average one-way distance to all a farmer's parcels is 4-5 km in Lushnje region and 5-7 km in Vlora region.¹⁷⁶ To a very large degree, each family is farming its own land. In 1996, more than 95 percent of the arable area was being farmed by small-scale farmers in individual farms.¹⁷⁷

The unresolved restitution claims have, in many cases, resulted in uncertainty of landownership and are thus hindering land market development and agricultural development in general.

In 2011, Albania had about 390,000 family farms, with an average size of 1.26 ha, divided in 4.7 parcels, and with an average parcel size of 0.27 ha.¹⁷⁸ Both ownership fragmentation and land use fragmentation are severe and are hampering the use of the agricultural land. The agricultural land is in the ownership of the family, and not only in the ownership of the registered owner(s). This unregistered family co-ownership complicates the development of the land market because, according to the *civil code*, the family ownership means that all family members must sign the documents for any land transactions, even for exchange of parcels of equal value, in front of the notary or provide a power of attorney.¹⁷⁹

¹⁷⁴ Ibid., p. 10.

¹⁷⁵ Cunga, A. and Swinnen, J. (1997): *Agricultural privatisation, land reform and farm restructuring in Albania*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 7.

¹⁷⁶ World Bank (2001): *Project appraisal document for Albania Agriculture Services Project*, p. 47.

¹⁷⁷ Cunga, A. and Swinnen, J. (1997): *Agricultural privatisation, land reform and farm restructuring in Albania*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 11.

¹⁷⁸ Albanian Ministry of Agriculture, Food and Consumer Protection (2011): *Statistical Yearbook 2011*.

¹⁷⁹ *Albanian National Land Consolidation Strategy (draft January 2013)*. Prepared under FAO project TCP/ARM/3301.

5.3.3.2 Romania

Romania has a long history of land reform over the past 200-300 years. In 1921, landholdings of more than 200 ha were expropriated in a land reform process and 2.8 million ha were distributed to one million small family farms.¹⁸⁰ However, many large landowners remained due to difficulties in the implementation of the land reform. The agricultural census conducted in 1930 revealed an average area of 3.92 ha of arable land per household.¹⁸¹

In 1945, the Government expropriated the land of German citizens and collaborators as well as of absentee owners, and private agricultural land over 50 ha. No compensation was provided to the previous owners. In 1947, 1.4 million ha had been distributed to 800,000 family farms with less than 5 ha.

In 1949 began a long and complicated collectivization process that gradually led to the formation of large-scale collective and state farms. The collectivization was completed in 1962 where 77 percent of the agricultural land was under State control. The land remaining in private ownership was located mainly in mountainous areas, and was in the form of one million remote and fragmented mountain farms.

The recent land reform began shortly after the overthrow of the Ceausescu regime in December 1989. The political riots were accompanied by considerable spontaneous take overs of agricultural land and assets from collective and state farms. The initial phase of the land reform was chaotic as the provisional Government was trying to take control over the spontaneous events. The first of a series of laws concerning land was adopted as early as January 1990 and distributed up to 0.50 ha for the personal use of each former member of the agricultural cooperatives and pensioners.¹⁸²

The main land reform law is the *land law* adopted in 1991. Privatization of land from collective farms and state farms followed different procedures in the initial phase. The political objective was equity and social justice to former owners and not efficient agricultural production.¹⁸³ The law liquidated 3,700 collective farms.¹⁸⁴ Its basic provisions were that land was to be restituted to the former owners or their heirs. A maximum area of 10 ha of agricultural land and one ha of

¹⁸⁰ Sarris, A. H. and Gavrilescu, D. (1997): *Restructuring of farms and agricultural systems in Romania*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 189-194.

¹⁸¹ Rusu, M. et al. (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from Romania*. FAO, p. 6-7.

¹⁸² Ibid., p. 9-13.

¹⁸³ Rusu, M. and Pamfil, V. (2005): *Agricultural land reform and land consolidation in Romania*. Workshop paper from FAO Land Consolidation workshop. Prague March 2005.

¹⁸⁴ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 39.

forested land per family could be restituted after making a claim and submitting the documentation for previous ownership. In 1997, the maximum area eligible for restitution was raised to 50 ha for agricultural land and to 30 ha of forested land. In addition, former members and employees of the collective farms, who had worked for the last three years before the political changes (1987-1989) in collective farms or in inter-cooperative associations, could claim 0.5 ha of arable land even if they had not contributed land to the collective farms.

Land reform on the state farms initially followed a different track. In the first phase from 1990, the state farms were transformed into limited liability companies or joint-stock companies. In 1991, a privatization law distributed 30 percent of the shares in the companies to “private” investment funds. These funds were to issue to each Romanian citizen a certificate that could be sold or exchanged for shares of companies being privatized. However, this approach was abandoned before it was implemented, and in 2000 a law was adopted which allowed for restitution of state farms in a similar way to the collective farms, with a maximum of 50 ha for agricultural land and 10 ha for forested land. The claimants were to get back the original parcels and when that was not possible, financial compensation should be paid.

Land reform in Romania has been conducted mainly through the restitution of the pre-1948 ownership rights, first from the collective farms and from 2000 also from the state farms. In addition, in the early 1990s agricultural land parcels of up to 0.5 ha were distributed to the landless rural families who were not eligible for restitution.

By the end of 1999, the breakup of the large collective and state farms had resulted in an ownership structure in Romania where 4.1 million family farms owned 9.4 million ha of agricultural land, with an average of 2.3 ha per holding. The land was normally scattered in 4-5 parcels, and with an average parcel size of 0.5 ha.

The land reform process has resulted in a highly polarized farm structure with, on the one hand, a large number of small family farms engaged mainly in subsistence farming, and on the other hand, a relatively low number of large-scale corporate commercial farms.¹⁸⁵ In between, there is a thin layer of larger family farms and larger farms managed by agricultural associations. Many of the latter farms have evolved from the former collective farms. Some 1.6 million ha or 12 percent of the

¹⁸⁵ Blenesi Dima, A. and Rusu, M. (2006): *Farmland consolidation: Recent developments in Romania*. Workshop paper FAO Land Consolidation workshop. Prague May 2006.

utilized agricultural land (UAA) remain in state and municipal ownership and are leased out to private farms.¹⁸⁶

5.3.3.3 Bulgaria

In Bulgaria, the farm structures before WWII were dominated by small private family farms that developed after the Russian-Ottoman war in 1878 ended 500 years of Ottoman rule. The average farm size in 1946 was around 4.3 ha, distributed on average in 11 parcels and thus with an average parcel size of a little less than 0.4 ha.¹⁸⁷ In contrast to many of the other countries in the region, Bulgaria chose not to implement a large land reform in the 1940s after WWII.¹⁸⁸ The collectivization process began in 1946. The collectivization meant that almost all agricultural land came under state control or the control of cooperatives.¹⁸⁹ The farm sector was reorganized a number of times between 1946 and 1990. During the early 1970s, the state and cooperative farms were consolidated into huge agro-industrial complexes (TKZS), with an average size of 10 000 ha. However, a small number of individually managed private farms existed, mainly in mountainous areas. In 1985, privately used agricultural land parcels amounted to 13 percent of the total agricultural land.¹⁹⁰

Land reform in Bulgaria began with the adoption of the *law of ownership and use of agricultural land* in 1991. Some 301 Municipal Land Commissions were established with the responsibility of restituting the state agricultural land to the former owners or their heirs. The ownership pattern as it existed in 1946 determined who were eligible for restitution. According to the law, restitution could take place in accordance with the old property boundaries where that was possible in the field. Where it was not possible, the Municipal Land Commissions prepared a land reallocation plan taking into consideration the various claims for restitution in the area, and the claimants received alternative land in the original village or compensation in privatization vouchers.¹⁹¹ It was a specific objective of the law to reconstitute in the fewest possible parcels to avoid land fragmentation. To

¹⁸⁶ Ciaian, P. et al. (2012): *Sales Market Regulations for Agricultural Land in the EU Member States and Candidate Countries*. Factor Markets Working Paper no. 14, p. 21.

¹⁸⁷ Howe, K.S. (1998): Politics, equity, and efficiency – Objectives and outcomes in Bulgarian land reform. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*, p. 208-215.

¹⁸⁸ Kiril Stoyanov (Ministry of Agriculture and Food, Bulgaria), personal communication, January 2013.

¹⁸⁹ ARD Inc. (2006): *Environmental and Economic impact assessment of land privatization in Eastern Europe and Eurasia – National report Bulgaria*. Prepared for USAID, p. 5.

¹⁹⁰ Davidova, S. et al. (1997): *Bulgaria: economic and politics of post-reform farm structures*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 26.

¹⁹¹ Vladimir Evtimov (Land Tenure Officer, FAO), personal communication, January 2013.

do so, the law set a minimum parcel size of 0.3 ha for arable land, 0.1 for vineyard and 0.2 for pasture land.¹⁹²

The deadline for submission of restitution claims was in August 1992. The land reform process in Bulgaria was performed slowly and took about nine years. Changes in government led to frequent changes in the legal framework. Thus, the main *law on land reform* was amended nearly 35 times up until 2004. In the initial stage, restitution was restricted to a maximum of 30 ha, and to 20 ha in regions of intensive agriculture. Sales of agricultural land to private individuals was not allowed until three years after restitution. This moratorium was lifted later in the process. The land claims in many villages significantly surpassed the amount of land available. Where there were claims for more land than available, a correction coefficient would reduce every villager's claim.¹⁹³

The land restitution process resulted in the re-establishment of a large number of small family farms. In total, 5.7 million ha out of 6.2 million ha of state agricultural land were restituted.¹⁹⁴ The average size of agricultural holdings after land reform is two ha on average, distributed in 4-5 parcels and thus with an average parcel size of 0.4-0.5 ha.¹⁹⁵ However, ownership fragmentation is considerably worse than even these figures suggest. As most of the original landowners in 1946 had died by the time of restitution, the land was restituted to their heirs. According to the Bulgarian *inheritance law*, every heir gets an equal share of the property when the owner dies. So each heir was entitled to receive a relative share of each restituted parcel. When this conflicted with the above mentioned provisions on minimum parcel sizes in the *restitution law*, the heirs were forced into co-ownership of the restituted agricultural parcels. This has led to a massive co-ownership situation in Bulgaria where many parcels have numerous co-owners. Thus, the political intention of avoiding land fragmentation instead resulted in a hidden or internal fragmentation in the form of widespread co-ownership. Recent research documents that land in forced co-ownership in Bulgaria is more likely to be leased out to corporate farms or to be left abandoned than land under single ownership.¹⁹⁶

¹⁹² Vranken, L. et al. (2011): *Property rights imperfections and asset allocation: Co-ownership in Bulgaria*. Journal of Comparative Economics 39 (2011), p. 159-163.

¹⁹³ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon, p. 69.

¹⁹⁴ ARD Inc. (2006): *Environmental and Economic impact assessment of land privatization in Eastern Europe and Eurasia – National report Bulgaria*. Prepared for USAID, p. 6.

¹⁹⁵ Kopeva, D. et al. (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from Bulgaria*. FAO, p. 19.

¹⁹⁶ Vranken, L. et al. (2011): *Property rights imperfections and asset allocation: Co-ownership in Bulgaria*. Journal of Comparative Economics 39, 2011.

The farm structures in Bulgaria after land reform are dualistic with a large number of small family farms and a much smaller number of large cooperatives and corporate farms. The average size of family farms in 1999 was 2.6 ha (including leased land), the average size of cooperatives was 483 ha, and the average size of corporate farms was 379 ha.¹⁹⁷ The large farming operations farmed mainly on leased land. In 2003, 77 percent of the total area under cultivation was leased.¹⁹⁸ Approximately 240,000 ha of agricultural land, or eight percent of the UAA, are owned and managed by the state through lease agreements with private family farms or corporate farms.¹⁹⁹ Between 2001 and until the end of 2012, a total of 32,000 ha were privatized through sale of state land through tenders.²⁰⁰ Of this amount, 8,000 ha were sold in 2012.

5.3.3.4 Conclusions

Albania, Romania and Bulgaria chose quite different approaches to land reform but in all three countries the land reform process resulted in a complete restructuring of the agricultural sector. Albania distributed almost all agricultural land to rural families based on principles of equity in a quick land reform process in the early 1990s. A *land restitution law* was adopted but so far only limited progress has been made. Romania first distributed up to 0.50 ha for the personal use of each former member of the agricultural cooperatives and pensioners during 1990-1991, and then from 1991 restituted land to the pre-collectivization owners and their heirs. Where restitution was not possible, the lost land was compensated. Bulgaria restituted the ownership situation as it was in 1946 (and compensated when restitution was not possible) in a slow land reform process.

In all three countries the land reform resulted in a complete breakup of the former large-scale cooperatives and state farms. The outcome has been small average sizes of agricultural holdings (between 1.3 and 2.3 ha) and severe ownership and land use fragmentation emerged, with an average 4-5 agricultural parcels in all three countries. In addition, “hidden” fragmentation in the form of co-ownership is common in Bulgaria and Albania in the form of family ownership of the agricultural land while co-ownership is not so common in Romania.²⁰¹ In Albania, the farm structures are completely dominated by the small and highly fragmented family farms as almost all agricultural land is used by the owning families. Small

¹⁹⁷ Ibid., p. 161.

¹⁹⁸ ARD Inc. (2006): *Environmental and Economic impact assessment of land privatization in Eastern Europe and Eurasia – National report Bulgaria*. Prepared for USAID, p. 12.

¹⁹⁹ Ciaian, P. et al., (2012): *Sales Market Regulations for Agricultural Land in the EU Member States and Candidate Countries*. Factor Markets Working Paper no. 14, p. 21.

²⁰⁰ Kiril Stoyanov (Ministry of Agriculture and Food, Bulgaria), personal communication, January 2013.

²⁰¹ Attila Blenesi-Dima, personal communication, January 2013.

family farms also dominate in the other two countries but the farm structures are dualistic, with large corporate farms also dominating.

5.3.4 FORMER YUGOSLAVIA COUNTRIES

Following the fall of communism, ethnic tension and economic problems led to the tragic wars in the ex-Yugoslavia countries during 1991-1995 (Slovenia, Croatia, Serbia, and Bosnia and Herzegovina) and 1998-1999 (Kosovo and Serbia). Seven independent countries: **Slovenia, Croatia, Serbia, Bosnia and Herzegovina, Montenegro, Macedonia** and **Kosovo** were founded on the ruins of Yugoslavia.

Land reform in the former Yugoslavia countries, with the exception of Slovenia, began much later than in most of the other countries in Central and Eastern Europe, and the wars have significantly complicated the land reform process. However, the starting point for land reform was also different from that of most of the other countries in the region. In Yugoslavia, the majority of the agricultural land was in private ownership as well as use throughout the socialist era. Thus, as much as 82 percent of the agricultural land was owned by small private family farms in 1985.²⁰²

The farm structures in most of the regions of Yugoslavia before WWII were dominated by small-scale family farms. From 1945, after the communists took over, large-scale state farms were created until 1953.²⁰³ Different tools were applied in the collectivization process. Agricultural land and forests of large landowners including banks, private companies and churches, were expropriated without compensation. To begin with, the maximum allowed size of privately-owned farms was limited to 25 ha. In addition, the government confiscated land belonging to German citizens and to those who had cooperated with the Germans during the war. The nationalization of large landholdings resulted in a state land reserve of 1.5 million ha of which 800,000 ha was distributed to settlers who had moved from unproductive mountain areas to more fertile areas. The remaining 700,000 ha was used to establish state farms.²⁰⁴ In 1953, the large-scale collectivization was abandoned because of strong opposition from peasants and due to poor performance of collective and state farms that led to economic and

²⁰² Zivkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY countries*. Working paper prepared for FAO, p. 22.

²⁰³ Bojnec, S. and Swinnen, J. (1997): *Agricultural privatisation and farm restructuring in Slovenia*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 282-284.

²⁰⁴ Zivkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY countries*. Working paper prepared for FAO, p. 18-20.

political problems. During 1949-1950, frustrated peasants organized spontaneous local armed rebellions against collectivization.²⁰⁵

Collectivization, however, continued at a lower intensity through expropriation and state purchase of private agricultural land in order to enlarge the state farms. From 1953 the maximum size of privately-owned farms was limited to 10 ha of agricultural land in fertile areas and to 20 ha in hilly areas.

Between 1955 and 1965, 1.2 million ha of agricultural land were purchased and expropriated from the private family farms and an additional 400,000 ha were cultivated through land reclamation (i.e. cultivation of grasslands and drainage of ponds and moors). This land was used to establish and enlarge existing large-scale state farms, often in the form of the so-called Socially Owned Enterprises (SOEs). Land consolidation was used as an instrument in this process as well. The different ways in which the state farms acquired private agricultural land in Yugoslavia has complicated the restitution and privatization process in the countries of the former Yugoslavia after 1991.

As a result of the collectivization process, a dualistic farm structure existed from the middle of the 1950s until after the wars in the 1990s, with many small-scale private family farms farming around 80 percent of the agricultural land and large-scale SOEs farming around 20 percent. The structure of the private farms was “frozen” since selling and buying of agricultural land between private individuals was hampered by complicated administrative procedures. Furthermore, the agricultural input and output market was fully controlled by the state.

Most of the former Yugoslavia (i.e. the north-western part) had been part of the Austro-Hungarian Empire and as such had the dual land registration system, with a separate land book and cadastre. All seven countries are struggling with severe registration problems that occurred from poor maintenance of the two registers and the lack of updating and coordination during the period of 1940-1995. Furthermore, in some cases the land registers were lost in the wars (WWII and those of the 1990s).

Those regions of the former Yugoslavia that were part of the Austro-Hungarian Empire have a long tradition, going back to the first part of the 19th century, for improving the agricultural structures through land consolidation projects.²⁰⁶ After WWII, the first *land consolidation law* was adopted in the Socialist Republic of Croatia in 1954. In SR Slovenia, the law was passed in 1957. Later, similar laws

²⁰⁵ Glenny, M. (1999): *The Balkans – Nationalism, War, and the Great Powers, 1804-1999*. Penguin Books, p. 550-551.

²⁰⁶ FAO Land Consolidation Project TCP/BIH/3301 (2012): *Draft land consolidation strategy framework paper*.

were adopted in most of the other republics, for example in Bosnia and Herzegovina as late as 1974. The land consolidation approach in Yugoslavia was similar to the German and Dutch approach at the time, with land consolidation often being implemented in connection with large-scale agricultural development projects, such as irrigation and infrastructure works. In Yugoslavia, the approach was top-down and often used to enlarge and consolidate the land of the state farms, and sometimes at the expense of the private family farmers who were forced to exchange their parcels for more remote ones.²⁰⁷ There are, however, also many examples where the private family farms benefitted from the land consolidation projects by reducing the number of land parcels (fragmentation) and amalgamating land closer to the homesteads.

The wars in the 1990s have further complicated the land reform process, especially in Croatia, Serbia, Bosnia and Herzegovina, and Kosovo. The restitution and compensation of refugees and displaced persons in the countries of ex-Yugoslavia after the wars is not included in this paper.

5.3.4.1 Slovenia

In Slovenia, the war that broke out in 1991 lasted only 10 days, and soon after its independence the country began a transition process that led to EU membership in 2004. It was the first of the countries of the former Yugoslavia to obtain EU membership.

At the starting point of land reform, about 17 percent of the agricultural land in Slovenia was owned by the state farms. The *law on denationalization* was adopted in 1991 and laid the foundation for restitution of the state land to the former owners. In 1993, the process was supported by the adoption of the *law on the fund of agricultural land and forests (the land fund)*.²⁰⁸ The restitution of the state land was handled by the state land fund. As mentioned above, the restitution process was complicated by the different approaches that had been used in Yugoslavia to acquire land from private farmers, sometimes without any compensation, sometimes with some compensation, and sometimes in a regular sale from the private owner to the state. Claims submitted for restitution by former owners or their heirs covered only a relatively small share of the state agricultural land.²⁰⁹ However, the restitution process was delayed and in 2000, only 40 percent of the

²⁰⁷ Zivkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY countries*. Working paper prepared for FAO, p. 39.

²⁰⁸ Bojnec, S. and Swinnen, J. (1997): *Agricultural privatisation and farm restructuring in Slovenia*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 289-293.

²⁰⁹ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO.,p. 37.

land object of restitution had been restituted. By 2010, however, the process had been almost finalized.²¹⁰

A special characteristic of land restitution in Slovenia was that the *law on denationalization* introduced restitution of agricultural land in co-ownership to the former owners and their heirs in cases where the land eligible for restitution was part of large agricultural fields, large orchards or vineyards. This provision reduced the physical land fragmentation as a result of the restitution process but instead it created “internal” fragmentation in the form of co-ownership.²¹¹

The Slovenian state land fund still had around 60,000 ha (nine percent of all agricultural land) in its possession in 2011 and it functions today as a state land bank, which besides the management of the state agricultural land, is also able to purchase agricultural land that is used to increase the land mobility when implementing land consolidation projects.²¹² In 2011, the Land Fund sold only 11 ha but bought 304 ha of agricultural land. Slovenia has no plans for mass privatization of the remaining stock in the Land Fund. However, agricultural land from the fund can be sold if requested by private farmers and leaseholders have a pre-emptive right for purchase.

The farm structure in Slovenia is still dominated by many relatively small family farms with an average agricultural holding size of 6.3 ha, an average size of arable land parcels of 0.3 ha, and an average of 22 land parcels per agricultural holding.²¹³ The share of agricultural land used through lease agreements is relatively low, with only 30 percent of the total UAA being leased in 2005.²¹⁴

5.3.4.2 Croatia

Croatia is set to become a EU member in July 2013; it will become the second country of ex-Yugoslavia to do so. In Croatia the restitution of state agricultural land began in 1996 after the Dayton Peace Accord, and with the adoption of the *law on compensation for the property confiscated during the communist regime*

²¹⁰ Zivkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY countries*. Working paper prepared for FAO, p. 31.

²¹¹ Bojnec, S. and Swinnen, J. (1997): *Agricultural privatisation and farm restructuring in Slovenia*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, p. 291.

²¹² Liseč, A. (2012b): Unpublished notes on land reform and land restitution in Slovenia.

²¹³ Lisic, A et al. (2012a): *The institutional framework of land consolidation – comparative analysis between Slovenia and Norway*. Paper presented at FIG Working Week, Rome, p. 3-4.

²¹⁴ Swinnen, J. & Vranken, L. (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS), p. 16.

in *Yugoslavia*.²¹⁵ According to the law, only Croatian citizens could have land restituted. In 1999, the Croatian Constitutional Court intervened and mandated the Croatian Parliament to allow for restitution regardless of citizenship.²¹⁶ The law was amended in 2002 and allowed for restitution to non-Croatian citizens but still with some exceptions. Only after a ruling of the Croatian Supreme Court in 2010 is restitution possible to all.

The compensation law defines restitution of the actual property as the main approach. However, when physical restitution is not possible, the former owners are compensated in state bonds.²¹⁷ Given budgetary constraints, the law limits the total amount of compensation to 3.7 million kuna (approximately 500,000 EUR). Large claims are not fully compensated but instead with a smaller portion of the actual value of the claim. The restitution process in Croatia is mainly managed at the regional level of the public administration by the County Public Administration Offices in collaboration with the Public Prosecutor's office. The restitution process in Croatia has been slow and is still ongoing. In 2010, 71 percent of the claims had been concluded.

In addition to restitution to previous owners, **Croatia** is in the process of privatization of state agricultural land through sale. According to the *law on agricultural land* adopted in 2001, the local governments (municipalities) were given the responsibility to prepare privatization programmes for state agricultural land under their jurisdiction.²¹⁸ State land can be disposed of only through an auction or tender procedure. According to the law, family farms have the priority right to purchase or lease state land. The state land can be sold only when the land registers (i.e. land book and cadastre) are updated and reflect the actual situation in the field. This is a necessity but has further delayed the privatization process as the updating and coordination of the land registers are often complicated and time consuming. In total, around 220,000 ha of agricultural land has been included in the programmes. In 2012, around 63,000 ha had been privatized through sale.²¹⁹

The farm structure in Croatia is dominated by many small and fragmented family farms with a few large corporate farms. In 2009, the average size of commercial farms (including land leased in and leased out) was 8.5 ha while the average of all

²¹⁵ Živkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY countries*. Working paper prepared for FAO, p. 31.

²¹⁶ Adamcic, J. (2012): *Restitution of Property to non-Croatian Citizens – Possible at last?*

²¹⁷ European Parliament (2010): *Private Properties Issues Following the Change of Political Regime in Former Socialist or Communist Countries – Study*. Directorate-General for Internal Policies, p. 85-88.

²¹⁸ ARCOTRASS (2006a): *Croatia – Country report*. Funded by the European Commission, p. 9-11.

²¹⁹ Internal database of Ministry of Agriculture, Ana Budanko Penavic (Ministry of Agriculture, Croatia), personal communication.

farms was only 2.9 ha.²²⁰ Abandoned agricultural land is a widespread phenomenon and more than 1/3 of the agricultural land is reported to be unused.²²¹

5.3.4.3 Serbia

Serbia was granted the status of a EU candidate country in March 2012. In Serbia, the legal foundation for land reform was the adoption in 1992 of the *law on land restitution*.²²² In 1992, 74 percent of the agricultural land in Serbia was owned and farmed by private individual family farms. In accordance with the law, around 150,000 ha of agricultural land expropriated after 1953 has been restituted to the previous owners. Agricultural land confiscated between 1945 and 1953 was excluded from restitution, together with restitution to former German owners and other minorities. Where it has not been possible to reconstitute in the old boundaries, the claimants have often been offered other unclaimed state land. According to the same law, land that had been confiscated from villages has been restituted and around 550,000 ha, mainly pasture land, has been returned to municipalities but is still under management by the state.

In 2006, the *law on restitution of property to churches* came into force. The Serbian Orthodox Church used to be one of the biggest landowners in Serbia. Some 9,000 ha of agricultural land and 22,000 ha of forest land was returned to the church.²²³

In 2011, the *law on restitution of property and compensation* was adopted. The new restitution law also addresses the land confiscated from private owners during 1945-1953. According to the law, nationalized property must be restituted to the former owners or their heirs. Where this is not possible, they have a right to compensation. It is estimated that the restitution process in Serbia will not be fully finalized for several decades. If the land is leased out (by the state) at the time of restitution, the lessee has the right to continue the land use for three years in the case of agricultural land and for 30 years in case of vineyards. In cases where nationalized agricultural land has been included in a land consolidation project during the communist period in Yugoslavia, the land is restituted in the boundaries as they were after the land consolidation projects (normally in fewer and larger parcels than at the time of nationalization).

²²⁰ Croatian Ministry of Agriculture (2009): *Croatian Agriculture*, p.6.

²²¹ Nordic Consulting Group (2009): *Pilot Project on Land Consolidation in Croatia – Final Report*, p. 7.

²²² Haldrup, N.O. et al. (2003): *Land Consolidation and Land Tenure Assessment Mission, Republic of Serbia – Pre-Feasibility Study*. FAO, p. 11-12.

²²³ Marosan, M. (2012): *Identification of Main Legal Issues Important for Successful Land Consolidation in Serbia*, p.19-22.

In addition to the restitution of agricultural land to former owners, Serbia has implemented a privatization programme under which state land that is not subject to restitution is privatized through tenders and auctions. The legal framework is provided by the *law on privatization*, which was adopted in 2001 after the Milosevic government had lost power. In 2000, there were 411 state farms with an average size of 1,600 ha. Between 2002 and 2008, nine large state agricultural enterprises, each with 5,000-6,000 ha and 300 employees, were privatized through tender.²²⁴ During the same period, 125 smaller state farms were privatized through auctions. The privatization process in Serbia has not yet been finalized.

In many cases, land restitution in Serbia has had a negative impact on land fragmentation and has further led to uneconomic land use in the agricultural sector. Furthermore, many of those who had land restituted were living in cities and did not have an interest in agriculture. In 2012, the average size of a family farm was around 4.8 ha including land leased in and leased out, and on average was divided in 5-6 parcels.²²⁵ The average size of agricultural parcels owned by family farms is 0.34 ha and the average size of corporate farms is 175 ha. Fragmentation of agricultural land is continuing through inheritance. As a general rule, the *law on inheritance* prescribes that the land parcels are divided among the heirs.

The privatization through sale in Serbia has, on the other hand, not changed the farm structures very much as the state land has often been sold to private investors in large parcels or as complete farms. Today, large corporate farms own 15 percent of the arable land while the remaining 85 percent is owned by family farms.²²⁶

5.3.4.4 Montenegro

Montenegro became independent from the union with Serbia in 2006 after a referendum in 2005. Montenegro was given the status of EU candidate country in 2010.

In the 1980s, around 90 percent of the agricultural land was owned by private family farms. In 2004, Montenegro adopted the *law on property restitution and remuneration*. Restitution is to be executed within 10 years from the adoption of the law (i.e. to 2014).²²⁷ The law, which was revised in 2007, provides for

²²⁴ Zivkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY countries*. Working paper prepared for FAO, p. 34-35.

²²⁵ Zoran Knezevic, (Director, Directorate of Agriculture Land, Ministry of Agriculture, Forestry and Water Management, Serbia), personal communication, January 2013.

²²⁶ Marosan, M. (2012): *Identification of Main Legal Issues Important for Successful Land Consolidation in Serbia*, p.19-22.

²²⁷ Zivkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY countries*. Working paper prepared for FAO, p. 31 and p. 46-47.

restitution in kind where possible, and with cash compensation or substitution of other state land where physical return is not possible. This has been the case if substantial funds have been invested in improvement of the land value through irrigation, planting of perennials and construction of buildings. As of 2010, 6,200 claims for restitution of 9,800 ha had been submitted, and 4,800 ha had been given back to former owners or their successors.

The *law on privatization* from 1996 provided for the acceleration of the privatization process. As of 2010, the privatization of agricultural land through sale was almost completed and 97 percent of all agricultural land was privately owned.

Farm structures in Montenegro have remained relatively stable over the past decades despite the land reform initiatives. The average size of privately-owned agricultural holdings was around 2.7 ha in 1991.²²⁸

5.3.4.5 Bosnia and Herzegovina

Bosnia and Herzegovina became independent from Yugoslavia after the Dayton Peace Accord in 1995. During the war of 1991-1995, over two million of the 4.4 million inhabitants either became refugees or were displaced from their homes. Many of these were rural families who had agricultural land.²²⁹ In Bosnia and Herzegovina, land issues are under the responsibility of the entities: Republika Srpska, the Federation of Bosnia and Herzegovina, and the Brcko District. Thus, what in other countries is referred to as state agricultural land is, in Bosnia and Herzegovina, owned and administrated by the entities.

Restitution to former owners and privatization through sale of state land has not been the most important issue in the aftermath of the war. Only around six percent of agricultural land is still state owned, while 94 percent is already privately owned.²³⁰

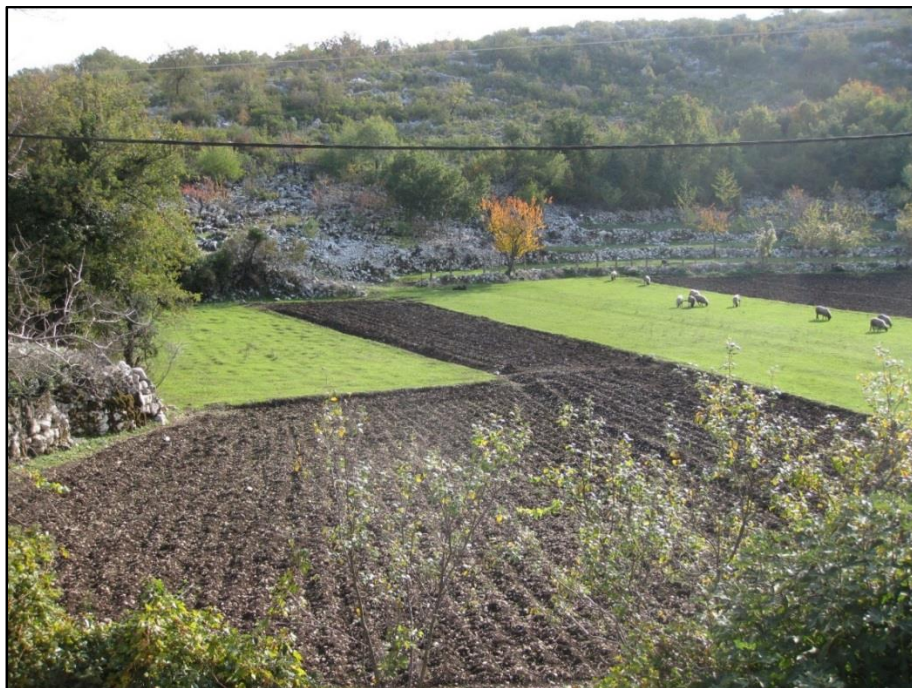
The Republika Srpska adopted the *law on restitution and remuneration* in 2000 but the law was suspended shortly afterwards. So far no further initiatives have been taken towards restitution of state agricultural land to former owners in Republika Srpska. In 2002, a draft *law on restitution* was discussed in the parliament of the Federation of Bosnia and Herzegovina. However, the law was

²²⁸ ARCOTRASS (2006b): *Montenegro – Country report*. Funded by the European Commission, p. 7-8.

²²⁹ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 25.

²³⁰ FAO Land Consolidation Project TCP/BIH/3301 (2012): *Draft land consolidation strategy framework paper*.

withdrawn for additional work and so far no further initiatives have been taken in the Federation either.²³¹



Family farm in Ravno Municipality, Bosnia and Herzegovina (2012).

Privatization of state agricultural land through sale has not yet been launched in Bosnia and Herzegovina. This is partly due to the unsolved restitution process and partly due to a political concern of not creating further fragmentation.

Today, as was the case during the Yugoslavia era, the farm structures in Bosnia and Herzegovina are dominated by many small and fragmented family farms, and with a few large corporate farms, often the successors of the SOEs. Land abandonment occurs even on fertile agricultural land for a number of reasons, such as land fragmentation, limited access to agricultural sales markets and the fact that many owners of agricultural land have moved away from the area where the land is located. Land market development is further hampered by out-of-date land registers. Many of the registered owners have been dead for decades and the inheritance remain unsolved and unregistered in the families. Thus, many

²³¹ Zivkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY countries*. Working paper prepared for FAO, p. 31.

agricultural land parcels have informal co-owners, sometimes among 2-3 generations of family members.

5.3.4.6 Macedonia

Macedonia (The former Yugoslav Republic of Macedonia) became independent in 1991. The status as a EU candidate country was granted in 2005 and negotiations on membership began in 2007.

At the starting point of land reform in Macedonia, 78 percent of the agricultural land was privately owned, and with the remaining 22 percent being owned by the state (around 200,000 ha).²³² The design of the land reform process has been influenced by a political concern that the process would lead to reduced productivity in the agricultural sector through the breakup of the large-scale state farms, and to further land fragmentation.²³³

The adoption of the *law on denationalization* in 1998 opened up for the restitution of agricultural land that had been nationalized after WWII.²³⁴ The restitution law, however, has provisions (article 21) to protect the state farms.²³⁵ Thus, former owners and their successors had to accept compensation in state land other than the original boundaries of the parcel if the land for restitution was part of a large field of a minimum of 20 ha. Another option was to reconstitute the land in the form of co-ownership of the state farm. About five percent of the total size of agricultural land in Macedonia or a little less than 1/4 of the state land has been restituted.²³⁶ The Government announced in March 2012 that the restitution process had been finalized and 31,000 claims for restitution had been considered.²³⁷

Macedonia has so far chosen to lease the 17 percent of the agricultural land that remains under state ownership after the restitution process in order to avoid a loss of agricultural productivity and increased land fragmentation. The state land and state farms are often leased out to large corporate farms.

The private agricultural land in Macedonia is highly fragmented with an average size of private agricultural holdings of 2.5 – 2.8, an average parcel size of 0.3 – 0.5

²³² Noev, N. et al. (2003): *The Development of Land Rental Markets in Bulgaria and the former Yugoslav Republic of Macedonia*, p. 72.

²³³ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 26.

²³⁴ Noev, N. et al. (2003): *The Development of Land Rental Markets in Bulgaria and the former Yugoslav Republic of Macedonia*, p. 44-49.

²³⁵ Melmed-Sanjak, J. et al. (1998): *Project for the Analysis of Land Tenure and Agricultural Productivity in the Republic of Macedonia*. Working Paper no. 19. Land Tenure Center, University of Wisconsin, p. 25.

²³⁶ Noev, N. et al. (2003): *The Development of Land Rental Markets in Bulgaria and the former Yugoslav Republic of Macedonia*, p. 72.

²³⁷ <http://vlada.mk/?q=node/2585&language=en-gb>

ha, and with an average of 7 land parcels in each holding.²³⁸ However, the land fragmentation is in general not caused by the land reform process but relates to the pre-WWII farm structure.

5.3.4.7 Kosovo

During the Yugoslavia period, Kosovo had an autonomous status as part of the Socialist Republic of Serbia. This status was eliminated by the Milosevic government in 1989. Ethnic tension led to discrimination, armed conflict and the war during 1998-1999. The war stopped after NATO's bombings of Serbia. After the war, the international community established a transitional government (UNMIK). Kosovo declared its independence in 2008.

The Kosovo Trust Agency (KTA) was established by UNMIK in 2002 with the mandate to privatize the 12 percent of the agricultural land that was owned by the state (i.e. through SOEs).²³⁹ It was estimated that after the war the SOEs held 60,000 ha of the most fertile agricultural land in Kosovo. As in the other countries of ex-Yugoslavia, agricultural land often became controlled by the state after it was nationalized or expropriated without compensation from private owners after WWII. However, to date, legal provisions regulating claims for restitution have not been adopted.²⁴⁰ Thus, the state land has to a large degree been privatized without taking into consideration the possibility of claims for restitution. Under the UNMIK Regulation No. 2005/18, the KTA did not need to determine the ownership status of assets of SOEs before privatization.²⁴¹ As a consequence of the privatization process in Kosovo, future physical restitution will not be possible and the claimant will be limited to compensation.²⁴²

In 2008, the Privatization Agency of Kosovo (PAK) succeeded KTA and the privatization process is still ongoing. Land privatization in Kosovo has been conducted through a tender procedure where state agricultural land (used by SOEs) has usually been privatized in large blocks of parcels or whole farms at the time. Thus, the privatization has not contributed to further land fragmentation. However, land fragmentation is continuing through inheritance.²⁴³

²³⁸ Keith, S. et al. (2009): *Options for the management of state land in rural areas in The former Yugoslav Republic of Macedonia*. FAO Land Reform Journal 2009/1.

²³⁹ ARCOTRASS (2006): *Kosovo – Country report*. Funded by the European Commission, p. 7-8.

²⁴⁰ OSCE & UNMIK (2008): *Privatization in Kosovo: Juridical Review of Kosovo Trust Agency Matters by the Special Chamber of the Supreme Court of Kosovo*, p. 6-7.

²⁴¹ *Ibid.*, p.10.

²⁴² *Ibid.*, p 28.

²⁴³ Stanfield, D. et al. (2004): *An Assessment of Property Rights in Kosovo*. USAID, p. 49-50.

The farm structure is still dominated by a large number of small and fragmented family farms and a small number of large-scale corporate farms, as was the case during the Yugoslavia era. In 2009, the average size of agricultural holdings was 2.5 ha, distributed in an average of eight land parcels, and thus with an average parcel size of 0.3 ha.²⁴⁴ Some 80 percent of the farms use between 0.5 and 2.0 ha, and 90 percent of all farming units have less than 2.5 ha.

5.3.4.8 Conclusions

All seven countries of the former Yugoslavia had, more or less, the same starting point for land reform, and this was significantly different from that of most of the other countries in Central and Eastern Europe. More than 80 percent of the agricultural land was owned and used by small family farms between 1945 and the outbreak of the war in Yugoslavia in 1991.

Thus, the land reform activities have not fundamentally changed the ownership of agricultural land and the farm structures, as has happened in most of the other countries in the region. The farm structures today in the seven countries are dualistic and remain characterized, on the one hand, by a large number of small family farms (often with several fragmented land parcels as was the situation in Yugoslavia before WWII) and, on the other hand, by a limited number of large-scale corporate farms (often the successor of the SOEs).

Slovenia was not affected by the wars in the same way as most of the other countries and became a EU member as early as 2004. Not surprisingly, Slovenia has the largest average agricultural holding size with 6.3 ha but on average separated into 22 land parcels. The other six countries all have an average size of agricultural holdings of between 2 and 3 ha. The average size of agricultural land parcels is close to 0.3 ha in all seven countries, and the level of fragmentation of the agricultural land is high and often even higher than the official register data indicates. As mentioned, the land registers were often not updated in Yugoslavia, and many registered owners have been deceased for decades and the land has been divided informally or is in co-ownership between family members. In most of the countries (e.g. Croatia and Bosnia and Herzegovina), land abandonment is widespread even on the fertile land.

In five of the seven countries (Slovenia, Croatia, Serbia, Montenegro and Macedonia), there has been a process whereby former owners and their heirs could receive, through restitution, the state agricultural land that was nationalized without payment of compensation to the landowners between 1945 and 1991. Where physical restitution has not been possible, compensation has been paid. In

²⁴⁴ Kosovo Ministry of Agriculture, Forestry and rural Development (2009): *Kosovo Agriculture and Rural Development Plan 2009-13*, p. 25.

Slovenia and Macedonia the land restitution process has been almost finalized while it is still ongoing in Croatia, Serbia and Montenegro. The restitution of state land to former owners in the five countries has, to some extent, further contributed to land fragmentation. However, most of the land fragmentation originates from the “frozen” farm structures of before WWII and still continues through inheritance.

Four of the seven countries (i.e. Croatia, Serbia, Montenegro and Kosovo) have engaged in large-scale privatization programmes where the remaining state agricultural land is privatized, often through public tenders or auctions. In Montenegro and Kosovo, the privatization process is coming towards an end whereas it will be ongoing for a while in Croatia and Serbia. In Kosovo, the state agricultural land was privatized at auctions without a parallel option for restitution. If legal provisions for restitution are adopted in the future, the claimants will have to be compensated in money as the land will already have been privatized to new owners through sale.

In Bosnia and Herzegovina, no steps have so far been taken towards either restitution or privatization through sale, and state agricultural land remains under the management of the entities and is often leased out to corporate farms.

5.3.5 WESTERN CIS COUNTRIES

The western countries of the Commonwealth of Independent States (CIS), **Moldova**, the **Russian Federation**, **Ukraine**, and **Belarus**, have approached land reform in quite different ways since the breakup of the Soviet Union in 1991. During the Soviet era, all agricultural land was state-owned.²⁴⁵ Agricultural land was, with the exception of household plots where use rights were granted to the rural families, used for large-scale farming in collective farms (kolkhozes) or state farms (sovkhozes) and was typically organized with one large farm per village.

5.3.5.1 Moldova

Moldova (with the exception of the small part to the east of the Dnistr river) was part of the larger Bessarabia annexed by Romania in 1920. After WWII, it became part of the Soviet Union as the Moldavian Soviet Socialist Republic. Land reform in Moldova²⁴⁶ was made feasible through the adoption of the *land code* in 1991 and the *law on peasant farms*.²⁴⁷ As its way of land reform, Moldova chose first the approach of distribution through paper shares, and subsequently the physical

²⁴⁵ World Bank (2005): *Moldova Agricultural Policy Notes, Agricultural Land*, p. 1-2.

²⁴⁶ For a more detailed description of land reform in Moldova and the subsequent experiences with land consolidation see: Hartvigsen, M. et al. (2013): *Experiences with land reform and land consolidation in Moldova*. FAO Land Tenure Journal no. 1/2013.

²⁴⁷ Csaki, C. and Lerman, Z. (2001): *Land Reform and Farm Restructuring in Moldova: A real breakthrough?* Discussion Paper, Hebrew University of Jerusalem.

distribution of agricultural land parcels.²⁴⁸ After the adoption of the *land code*, village land commissions were established to determine “equivalent” land shares for eligible recipients, such as members and workers of collective and state farms, including administrative and professional staff, teachers, social workers and pensioners. One of the first activities was to determine the land fund subject to privatization, and the village land commissions played a central role.



Fragmented land parcel in Moldova (2005).

The *land code* provided for the preparation of “land arrangement projects”. These privatization projects were approved by local councils of the municipalities upon the recommendation of the village land commissions and after taking into consideration the opinion of the eligible persons. The local councils authenticated the property rights for the equivalent shares of land and issued land titles for the land shares. Initially, the provisional land titles did not indicate the exact location of parcels and eligible persons were not allocated physical parcels. The second stage of allocating parcels began in the mid-1990s. The new owners of shares of

²⁴⁸ Lerman, Z. et al. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, p. 93.

agricultural land had to explicitly request to withdraw from the corporate farms, and only in this situation were distinct, physical land parcels allocated.

Administrative support for land privatization was relatively weak in the early and mid-1990s, and in many cases the management of collective and state farms worked against the process. During 1992-1996, less than 10 percent of members of collective farms left through withdrawal of their land and were trying to farm individually, often without any equipment.²⁴⁹ Thus, despite the early start, the land reform advanced very slowly until 1996 when the Constitutional Court removed legislative constraints.²⁵⁰

The second part of Moldova's land reform was heavily influenced by donors. The National Land Programme, funded by USAID, was launched in 1997. Land arrangement projects for privatization were finally prepared and implemented using the procedure set by the 1991 *land code*. The new owners each received parcels of "equivalent soil quality" rather than of equal surface area (i.e. allocations of land with good soil quality were smaller than those for less fertile soils). Moldova was relatively unusual amongst transition countries in that a husband and wife each received land parcels, rather than the household.

The National Land Programme ended in 2001 and resulted in the privatization of more than 98 percent of agricultural land subject to privatization: around 1.7 million ha was privatized to almost 1.1 million new owners, each with an average landholding of 1.56 ha²⁵¹. Normally the landholding was distributed in 3-4 parcels (i.e. 1-2 parcels of arable land, one parcel of orchard and one parcel of vineyard).

The land reform in the 1990s and post-land reform development has resulted in a polarized agricultural structure. A duality exists with a relatively small number of large corporate farms at one extreme and a large number of very small and fragmented family farms at the other. While smallholders operate some 99.5 percent of farms, they farm less than 39 percent of the total UAA. Their farms average around one ha compared with an average of almost 250 ha for the larger operators who often farm on land leased in.²⁵² Medium-sized family farms that are the backbone of the agricultural structures in most Western European countries are almost completely absent in Moldova.

²⁴⁹ East-West Management Institute (2001): *Moldova Land Privatization Programme—Final Report*, p.7.

²⁵⁰ Csaki, C. and Lerman, Z. (2001): *Land Reform and Farm Restructuring in Moldova: A real breakthrough?* Discussion Paper, Hebrew University of Jerusalem, p.1.

²⁵¹ Consulting and Credit in Agriculture (CCA) (2003): *Agricultural Land Market in Moldova – Baseline Study*, p.7.

²⁵² National Bureau of Statistics of the Republic of Moldova (2011): *Preliminary result of General Agricultural Census 2011*.

The land reform in Moldova in the 1990s did not include the so-called Trans-Dniestr area between the Dniestr River and the Moldovan border with Ukraine. In this area, the agricultural land is still state-owned according to the 2002 *land code*. The land continues to be used by large-scale corporate farms (i.e. former collective and state farms).

5.3.5.2 Russian Federation

Starting in 1990, the Russian Federation has been implementing its third land reform in the last 100 years.²⁵³ The first wave of reforms, the Stolypin reforms, were launched in Czarist Russia in 1906.²⁵⁴ These reforms were basically an enclosure movement similar to the reforms that took place in Denmark from the 1780s onwards, where the common use of the agricultural land was transformed into individual family farms. They were interrupted by the Bolshevik revolution in 1917, which resulted in the second land reform of collectivization. Forced collectivization in the Soviet Union was a gradual process, but from the mid-1930s, all individual independent farms had vanished and all agricultural land was in the ownership of the state and managed by the collective and state farms, except for the so-called household plots where the use right were allocated to the rural population for subsistence farming.²⁵⁵

The recent land reform began with the adoption of *principles of legislation of the USSR and Union Republics on land* in 1990, which was more than a year before the dissolution of the Soviet Union.²⁵⁶ The law empowered the republics to adopt their own legislation on land. The Russian Soviet Federative Socialist Republic subsequently adopted a number of laws including the *law on land reform*, the *law on peasant farms*, the *law on property* and the *land code*, and also legalized private ownership of land in addition to state ownership. Private landownership was confirmed by the 1993 *constitution* of the Russian Federation. But despite these legislative steps, the Russian Federation's land reform was intended to allow state and collective farms to exist and function, and the land reform was designed in such a way that only a small percentage of the land from the collective sector was distributed.²⁵⁷

During 1992-1994, most of the state agricultural land managed by the collective and state farms was privatized through the distribution of the ownership of the

²⁵³ Wegren, S. (1998): *The conduct and impact of land reform in Russia*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*, p. 95.

²⁵⁴ For detailed information about the Stolypin reform see: Kofoed, C.A. (1985): *My Share in the Stolypin Agrarian Reforms*. Odense University Press.

²⁵⁵ Lerman, Z. et al. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, p. 65.

²⁵⁶ *Ibid.*, p. 68.

²⁵⁷ Wegren, S. (2008): *The Limits of Land Reform in Russia*. *Problems in Post – Communism*. Vol. 55, no. 2, March/April 2008, p. 14-24.

large corporate farms to former collective farm members and state farm workers in the form of land shares.²⁵⁸ Land shares could be bought and sold by individuals, leased from individuals or invested in the equity capital of the farm enterprise.²⁵⁹ Only the household plots (where the rural population had been granted the use rights during the Soviet period) have been privatized and the individual ownership of the physical parcels fully registered.

The paper land shares are described by Lerman as *fractional ownership in a large tract of jointly owned land, which in reality is managed and controlled by somebody else (typically the former collective farm in the village)*.²⁶⁰ Owners of land shares who want to create individual, independent family farms are allowed to withdraw from the corporate farms and obtain their own separate physical land parcels. However, for a number of reasons, few have chosen to leave the large corporate farms and have often leased back their land shares to the large farms. Thus, the farm structures have not changed significantly in the Russian Federation since the breakup of the Soviet Union and large farms still dominate, with the land now being owned by the rural population in the form of land shares. In 2006, of the 220 million ha of agricultural land, some 191 million ha or 86 percent were utilized, with the large corporate farms using 72 percent. Private households and individual farms used the remaining 28 percent. It is estimated that 44 million families owned land (both in shares and physical parcels) in 2002 and almost every rural household has become a landowner.²⁶¹ Usually the rural households own a small physical household plot with an average size of 0.43 ha (in 2002) and a share in the corporate farm in the village. A survey from 2006 indicated that the average size of land owned in the form of land shares represented around seven ha. The land market in the Russian Federation is almost completely dominated by lease agreements while land sales are much less common.

5.3.5.3 Ukraine

In Ukraine, the land reform after 1990 took the same initial steps as in the Russian Federation, with both countries then being part of the Soviet Union. In 1990, the Ukrainian Soviet Republic passed the first *resolution on land reform*, by which all land in the country became subject to reform.²⁶² Ukraine declared its independence from the Soviet Union in October 1991.

²⁵⁸ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 7-12.

²⁵⁹ Lerman, Z. et al, (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books, p. 84.

²⁶⁰ *Ibid.*, p. 95.

²⁶¹ Wegren, S. (2008): *The Limits of Land Reform in Russia*. Problems in Post – Communism. Vol. 55, no. 2, March/April 2008, p. 15-16.

²⁶² Lerman, Z. et al. (2007): *Rethinking agricultural reform in Ukraine*. IAMO and FAO, p. 15-29.

Land reform in Ukraine has been implemented in two stages: 1990-1999; and from 2000 onwards. In 1991, the *law on peasant farms* was adopted. Since the land was still owned by the state, the law provided that individuals who wanted to start small private farms could receive up to 50 ha of agricultural land in lifetime inheritable possession. The new *land code* from 1992 laid the foundation for privatization of state-owned agricultural land in land shares. During 1992-1993, 12,000 collective and state farms were transformed into so-called collective agricultural enterprises (CAE). In the next step, the CAEs were privatized through land shares that were distributed to the employees and pensioners of the collective and state farms. After a *presidential decree* was issued in 1995, the new owners of the land shares had the right to withdraw from the large farms and convert the paper land shares to one or more physical parcel(s), and to establish a private individual family farm or to lease out the land to other farmers. However, in the 1990s, few chose to withdraw from the large farms and in practice the process was often difficult for a number of reasons, as in the Russian Federation. By the end of 1999, more than six million rural residents had received paper land shares for the ownership of agricultural land as well as non-land assets of the former collective and state farms. The privatization of collective and state farms in the form of distribution of land shares to the rural population during 1990-1999 had little effect on the farm structure. The large-scale corporate farms continued “business as usual” and were still subsidized by the state budget.

As in the Russian Federation, the household plots (where rural families had the individual use rights long before the breakup of the Soviet Union) were registered as individual property during the 1990s. Household plots are regulated by the *law on household plots* from 2003.

The second phase of the Ukrainian land reform began with a *presidential decree* in December 1999 that confirmed the right of the land share owners to have the land distributed as physical land parcel(s) and subsequently led to the large-scale conversion from land shares to physical parcels. According to the decree it was also possible to enlarge the household plot with the physical land parcel(s) from the converted land shares. Nearly seven million rural residents became owners of physical land parcels with an average holding size of 4.2 ha.²⁶³ In 2005, about 70 percent of the agricultural land, or 80 percent of the arable land, was physically owned by individual rural owners. Land titles for the distributed physical parcels have been registered with support from international donors. The average size of household plots grew from 0.5 ha to 2.5 ha in 2004. The land used by family farms increased from 1 million ha in 1999 to 3.5 million ha in 2002.

²⁶³ Ibid., p. 22.

The farm structures in Ukraine after the second phase of land reform from 2000 are still dominated by large corporate farms, the successors to the collective and state farms. In 2004, these farms used 59 percent of the total agricultural land and managed the land through lease agreements with state, municipalities and private owners.²⁶⁴ The individual sector, however, has developed dramatically since 1990 and in 2004 it used 41 percent of the total agricultural land. Of this figure, household plots accounted for 33 percent and commercial family farms for eight percent. An FAO survey in 2005 found that the average rural household owned 4.6 ha of agricultural land, divided into 2.7 parcels.²⁶⁵ Land fragmentation is a relatively small problem in Ukraine as most of the agricultural land is still used in large fields by corporate farms or commercial family farms.

The *land code* opened the way for some land transactions from 2001 but also introduced a moratorium on buying and selling of agricultural land until the beginning of 2008. The moratorium has since been extended a number of times due to political discussions about the opening of the Ukrainian agricultural land market, with the latest being in December 2011 when it was extended until the beginning of 2013.²⁶⁶

5.3.5.4 Belarus

Belarus took the same initial steps towards land reform as the other Western CIS countries in 1990 while still being part of the Soviet Union. But since then not much has happened and practically no attempts have been made to restructure the traditional large-scale corporate farms. Belarus still does not allow private ownership of agricultural land. The *law on landownership* adopted in 1993 allowed private ownership to household plots of up to one ha.²⁶⁷ The 1999 *land code* confirmed that citizens may own up to one ha of agricultural land in a household plot and up to 0.25 ha of agricultural land under and around a private house.²⁶⁸ Additional land has to be leased from the state. The farm structures (except for the household plots which were already in individual use during the Soviet era) are still completely dominated by large-scale state subsidized corporate farms.

5.3.5.5 Conclusions

The four western CIS countries, Moldova, the Russian Federation, Ukraine and Belarus, all started land reform in 1990 while being part of the Soviet Union.

²⁶⁴ Ibid., p. 29.

²⁶⁵ Ibid., p. 69-71.

²⁶⁶ Bilak, D. et al (2012): *Ukraine: Extension of Agricultural Land Moratorium*. Article written for Law-Now, CMS Cameron McKenna's free online information service.

²⁶⁷ Lerman, Z. et al. (2007): *Rethinking agricultural reform in Ukraine*. IAMO and FAO, p. 70.

²⁶⁸ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 7-12.

Initially, Moldova, Russia and Ukraine privatized the collective and state farms through distribution of paper land shares to the rural population. All three countries formally allowed the new owners of the land shares to withdraw from the large corporate farms and convert their land shares to physical parcels of agricultural land. However, this only happened in relatively few cases for a number of reasons. In Russia, it is still most common to own the agricultural land in the form of land shares which are leased out. Household plots are privately owned in all four countries and registered as such. In Belarus, practically no attempts have been made to restructure the traditional large-scale corporate farms. Belarus still does not allow private ownership of agricultural land, and ownership is allowed only for household plots of up to one ha.

In a second phase, Moldova (from the mid-1990s) and Ukraine (from 2000) distributed the agricultural land to the rural population in physical parcels. Despite the physical distribution in Ukraine from 2000, to a large degree the Soviet-era farm structures remain intact as most of the land is still used by the large-scale corporate farms. In Moldova, the physical distribution in the late 1990s has led to a dualistic farm structure which is dominated by many small and fragmented family farms and with a few large corporate farms mainly operating on land leased in.

Restitution of the pre-collectivization ownership rights to agricultural land has not been high on the political agenda in the four Western CIS countries and no attempts for restitution have been made. The main reason for this is most likely that the land was nationalized from the former private owners more than 60 years before the recent land reforms began in 1990. This, however, was not the situation in the Western part of Moldova (west of the Dnistr river) and the Western (former Polish) part of Ukraine where the agricultural land was nationalized by the Soviet Union after WWII. This differs from the land reform approach of the three Baltic countries, which were also annexed by the Soviet Union after WWII and where restitution was chosen as the main land reform approach after 1990 (see section 3.1).

5.3.6 TRANSCAUCASUS COUNTRIES

The three Transcaucasus countries, **Armenia**, **Georgia** and **Azerbaijan**, were incorporated into the Soviet Union in the early 1920s. All three countries acquired independence in 1991 when the Soviet Union broke up. Ethnic tension in the early 1990s led to armed conflicts between Armenia and Azerbaijan over the Nagorno-Karabakh area and in Georgia within two regions, Abkhazia and South Ossetia.

During the Soviet era all agricultural land was state-owned and managed by large-scale cooperatives and state farms. In all three countries, the land reform process was driven by an urgent political need in response to poverty and hunger after the

collapse of the command economy in the Soviet Union.²⁶⁹ At the start of the transition, a significant number of the urban population lost their jobs and moved from the cities to the villages where they and their families originally came from.

5.3.6.1 Armenia

Land reform in Armenia began in 1991 and was already completed in 1993. The state-owned agricultural land was distributed to the rural families in an equal way.²⁷⁰ However, the amount of land distributed to the families varied greatly depending on the ratio between the available state land fund and number of eligible families in each community. For each rural community, 75 percent of the agricultural land was distributed among the eligible families, with the land being held by the family members in co-ownership. Families with more members got a larger share than those with fewer members. The different categories of land in the community were divided and a family normally received 1-2 parcels of arable land, one parcel of vineyard and one parcel of orchard. A lottery was held to determine the location of the family parcels in the village.²⁷¹

Some 25 percent of the agricultural land and all pasture areas were kept under state ownership but were available for lease to private individuals. This state land is now managed by the local community councils.

The farm structure in Armenia after the land reform of the early 1990s is dominated by a large number of small family farms. The land reform resulted in the establishment of 324,000 private family farms. The average size of agricultural holdings is 1.21 ha, normally distributed in 3-4 land parcels, and with an average parcel size of around 0.3 ha. In the fertile but overpopulated Ararat Valley the average holding size is as little as 0.48 ha. A relatively small number of larger collective and corporate farms still exist with an average size of 20 ha per farm, often using leased agricultural land from the 25 percent state land reserve. The level of fragmentation of agricultural land today is often higher than at the time of the distribution due to inheritance between family members. The new ownership of the heirs is often not formally registered to avoid the registration costs.

Armenia has so far not taken political decisions for the mass privatization of the remaining state agricultural land. However, the local community councils have the management rights of the state (or public) land and can decide to sell the land.

²⁶⁹ Müller, W. et al. (2001): *Strategy for Land Consolidation and Improved Land Management in Georgia – Pre-Feasibility Study*. FAO, p.5.

²⁷⁰ Chluba, K. and Schmidt-Kallert, E. (2001): *Strategy for Land Consolidation and Improved Land Management in Armenia – Pre-Feasibility Study*. FAO, p.13.

²⁷¹ Giovarelli, R and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 18.

5.3.6.2 Georgia

In Georgia, land reform began in 1992 after the *land privatization decree* was issued. In the first phase, the formal ownership of the land was kept by the state and the agricultural land was given to the rural population for inheritable lifetime use.²⁷² About 30 percent of all agricultural land and 60 percent of arable land and perennials were distributed in the form of the lifetime use rights to the rural families in a rapid process during 1992-1993. Pasture lands were not part of the process. The actual transfer of landownership became possible only following the adoption of the *law on agricultural landownership* in 1996, after which the de-facto privatization was registered.

The political goal of the land reform process was to create two main agricultural sectors in Georgia: a subsistence sector, and a market-oriented sector controlled by larger leaseholders.²⁷³ The reason for keeping a considerable part of the agricultural land in state ownership was the wish to make land available for the market-oriented farms to lease. Furthermore, most of the remaining state land is less fertile and often located in remote areas (often hilly or mountainous).²⁷⁴

The maximum area of agricultural land to be distributed to a family was 1.25 ha in the lowlands and up to five ha in the highlands. The distribution was done according to three categories. Families whose members had been engaged in the farming activities of the large-scale state farms during the Soviet era were entitled to receive up to 1.25 ha. Other families in rural areas received up to 0.75 ha, and families in urban areas had a right to receive up to 0.25 ha of agricultural land.

The land reform process in Georgia resulted in the establishment of a large number of small private family farms with an average holding size of only 0.9 ha and fragmented into an average of 4-5 parcels. Thus, the average parcel size is 0.2 ha, which is the smallest of all 25 study countries.

In 1996, the State officially began leasing out the state agricultural land that was not designated for privatization.²⁷⁵ As of 2002, 42,000 natural persons (often family farmers) had leased 464,000 ha of state agricultural land (on average 11 ha), and 6,000 legal persons (i.e. corporate farms) had leased 439,000 ha (on

²⁷² Lerman, Z. (2004b): *Successful land Individualization in Trans-Caucasia: Armenia, Azerbaijan, Georgia*. In Macey, D. et al. (edt.) (2004): *Building Market Institutions in Post-Communist Agriculture*. Lexington Books, p. 58-60.

²⁷³ Ebanoidze, J. (2003): *Current Land Policy Issues in Georgia*. Land Reform Special. FAO, p. 125-127.

²⁷⁴ Müller, W. et al. (2001): *Strategy for Land Consolidation and Improved Land Management in Georgia – Pre-Feasibility Study*. FAO, p. 5-7.

²⁷⁵ Tsomaia, E. et al. (2003): *The other Agricultural Land Reform in Georgia: State Leasing of land to Private Farmers*. Prepared by Terra Institute under an agreement with USAID, p. 3-7.

average 73 ha). Thus, the farm structures in Georgia are dominated by a large number of very small, privately-owned subsistence family farms, and with a considerable number of both medium-sized family farms and larger corporate farms, with the two latter types mainly operating on leased state agricultural land. So far, Georgia has not taken political decisions for the mass privatization of the remaining state agricultural land.

5.3.6.3 Azerbaijan

Land reform in Azerbaijan began in 1996, later than in the two other Transcaucasus countries, with the adoption of the *law on land reform*. The *law on privatization of state property*, adopted in 1993, gave the general principles and procedures for the privatization of all state property.²⁷⁶ In 1996, unlike Armenia and Georgia, most of the agricultural land in Azerbaijan was still managed by large collective farms. In the first phase of land reform, the rural families received only paper certificates of entitlement to unspecified land shares.²⁷⁷

Similar to the other two countries, Azerbaijan chose in the second phase of land reform from 1997-1998 to distribute state agricultural land to the rural families in physical parcels. The initial phase of the distribution process was carried out through the World Bank-funded Farm Privatization Project, which was a pilot project with the objective to establish the model for large-scale privatization and distribution.²⁷⁸ The land to be privatized was divided into parcels of equal value (taking into account location and soil quality). Then the eligible families were allocated land parcels after a lottery in each village. The local distributions were approved by the state reform commissions, the new private ownership was registered, and the ownership certificates were issued.

The land reform was completed in 2004. Only the best agricultural land was subject to privatization (in total 3.62 million ha). Overall, 76 percent of the total arable land and 70 percent of the total meadowland were privatized. Pastures were kept in state ownership. In total, 869,000 rural families were each distributed an average of 1.6 ha of agricultural land, normally divided into 4-5 parcels.

²⁷⁶ UN ECE Committee on Housing and Land Management (2007): *Land Administration Review: Azerbaijan*, p. 4-8.

²⁷⁷ Lerman, Z. (2004b): *Successful land Individualization in Trans-Caucasia: Armenia, Azerbaijan, Georgia*. In Macey, D. et al. (edt.): *Building Market Institutions in Post-Communist Agriculture*. Lexington Books, p. 53-66.

²⁷⁸ World Bank (2008): *Project performance assessment report; Farm Privatization Project, Azerbaijan*.

Today in Azerbaijan, the farm structures are characterized by many small and medium-sized family farms and relatively few larger corporate farms. Some 80 percent of the family farms chose to farm the land themselves.²⁷⁹

5.3.6.4 Conclusions

All three Transcaucasus countries distributed the state agricultural land to rural families free of charge as the main land reform approach. Azerbaijan first distributed the land in shares and subsequently in physical parcels. Armenia and Georgia distributed physical parcels right away. All three countries still have a considerable unprivatized land fund which is leased out to family farms and corporate farms. The average sizes of agricultural holdings are small (between 0.9 and 1.6 ha) and distributed in a number of parcels. Thus, the land reform process has led to a complete breakup of the Soviet era large-scale farms and resulted in farm structures that are dominated by small agricultural holding sizes, and with severe land fragmentation. All three countries still have substantial shares of agricultural land that remain state owned and so far with no plans for further mass-privatization.

All three Transcaucasus countries have established unified land registration systems, and during the late 1990s and early 2000s they registered the land parcels distributed in the 1990s.

5.4 WHAT CONCLUSIONS CAN BE DRAWN FROM THE STUDY OF LAND REFORM AND ITS OUTCOME IN CENTRAL AND EASTERN EUROPE?

This paper fills a gap by providing an updated overview of land reform in Central and Eastern Europe. Several earlier publications had provided a comprehensive coverage of countries, but with the omission of the countries of ex-Yugoslavia.

The paper identifies that land reform approaches since 1989 have varied considerably among the 25 study countries. In all the countries where land reform has been applied, the political decisions were driven by considerations of equity and political justice, and yet there was a considerable variety in the design of land reforms.

The paper shows that the land reforms have resulted in different outcomes, including quite different farm structures. Before 1989, the farm structures in the study countries (with the exception of Poland and Yugoslavia) were dominated by large-scale cooperatives and state farms. The land reforms after 1989 have

²⁷⁹ Dudwick, N. et al. (2005): *A Stocktaking of Land Reform and Farm Restructuring in Bulgaria, Moldova, Azerbaijan and Kazakhstan*, p. 30.

resulted in a complete breakup of these farm structures in some of the countries, while in other countries the farm structures remain dominated by large-scale corporate farms (often being the successors of the cooperatives and state farms) that now operate on lease agreements with the private owners of the land. The differences in the farm structures that emerged from the land reform process can, at least to a large degree, be explained by the chosen land reform approaches in each country.

The analysis carried out for this paper confirms the need, and sets the foundation, for a more extensive study to address the research questions:

- *What is the linkage between the chosen land reform approach and the outcome in the form of farm structure and land fragmentation?*
- *Under which conditions is land fragmentation a barrier for the development of the rural land market and the agricultural and rural sector in general?*

The aim and scope of such a more extensive study are briefly described below.

Towards a better understanding of land reform approaches

First, further study could provide a more complete overview of land reform approaches applied in all the countries of Central and Eastern Europe from 1989 and onwards. Drawing on this paper and other sources, such a study should identify both the main and secondary land reform approaches applied in each country and provide a fuller and updated overview. Furthermore, such a study should enable more detailed comparisons between the countries in the six geographical country groups and in general. It should also be able to provide explanations of some of the differences in political history and pre-collectivization ownership structures that determined the choice of land reform approaches in the countries.

Towards a better understanding of the coherence between land reform and land fragmentation

Second, a more extensive study could lead to a better understanding of the farm structures that developed during and after the land reform process. This should allow for more informed discussions on the coherence between the choice of land reform approach and land fragmentation.

It has often been stated that land reform in Central and Eastern Europe has led to farm structures dominated by small and uncompetitive family farms as well as to severe land fragmentation. This is the case in some countries, such as Albania, Armenia and Georgia. But the actual situation is much more nuanced than that,

as in other countries, such as the Czech Republic, Slovakia and the Russian Federation, land fragmentation has had only a minor limiting impact on the actual land use. In yet other countries, such as Poland and the seven countries of ex-Yugoslavia, severe land fragmentation exists in both ownership and land use. However, this was not caused by the recent land reforms. Despite the limitations in available data, the current situation of land fragmentation (i.e. of ownership and of land use) in the 25 study countries could be assessed in a more extensive study, and linked to the land reform approaches applied in each country.

Towards a better understanding of the impact of land fragmentation

Third, a more extensive study could establish a model of the impact of land fragmentation on land market development and on agricultural and rural development. Work on this aspect should draw on the classical theory on land fragmentation and the few theoretical contributions available that focus on land fragmentation in Central and Eastern Europe.

Land fragmentation is often referred to without using a clear definition of “fragmentation”. The key to understanding the impact of land fragmentation in the Central and Eastern European context lies in the intersection between the fragmentation of landownership and the fragmentation of land use. By building on this paper, the existing analysis of classical theory of land fragmentation (mainly developed between 1950-85), and the albeit limited existing analysis of theoretical aspects of land fragmentation in Central and Eastern European countries since 1989, it should be possible to further contribute to the theoretical framework dealing with land fragmentation in Central and Eastern European countries. Specifically, a more extensive study could lead to a model of the impact from land fragmentation, and at the same time answer the second part of the research question posed above:

Under which conditions is land fragmentation a barrier for the development of the rural land market and the agricultural and rural sector in general?

Towards a better understanding of policy

Fourth, a more extensive study could provide additional insights to improve policy advice to governments and donors for future land reform and land privatization initiatives in the Central and Eastern European countries and the Central Asian countries of the former Soviet Union. A more extensive study could address the question:

How should you design the land reform approach if you want to dismantle the large-scale corporate farms and build individual commercial farms without creating excessive land fragmentation?

REFERENCES

- ACE project (1999): *The Development of Land Markets in Central and Eastern Europe – Final Report*.
- Adamicic, J. (2012): *Restitution of Property to non-Croatian Citizens – Possible at last?*
- ARCOTRASS (2006a): *Croatia – Country report*. Funded by the European Commission.
- ARCOTRASS (2006b): *Kosovo – Country report*. Funded by the European Commission.
- ARD Inc. (2006): *Environmental and Economic impact assessment of land privatization in Eastern Europe and Eurasia – National report Bulgaria*. Prepared for USAID.
- Albanian Ministry of Agriculture, Food and Consumer Protection (2011): *Statistical Yearbook 2011*.
- Beckmann, V. and Hagedorn, K. (1997): *Decollectivisation and privatisation policies and resulting structural changes of agriculture in Eastern Germany*. In Swinnen, J. et al (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Bilak, D. et al (2012): *Ukraine: Extension of Agricultural Land Moratorium*. Article written for Law-Now, CMS Cameron McKenna's free online information service.
- Blenesi-Dima, A. and Rusu, M. (2006): *Farmland consolidation: Recent developments in Romania*. Workshop paper FAO Land Consolidation workshop. Prague May 2006.
- Bloch, P. (1998): *Picking up the pieces – consolidation of Albania's radical land reform*. In Wegren, S (edit): *Land Reform in the Former Soviet Union and Eastern Europe*.
- Bojnec, S. and Swinnen, J. (1997): *Agricultural privatisation and farm restructuring in Slovenia* in Swinnen, J et al (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Bromley J. and Bromley D. (2012): *Looking East: Reclaiming land and legacy in the former GDR*. IAMO.
- BVVG (2011): *Company Data 2011*.
- Chluba, K. and Schmidt-Kallert, E. (2001): *Strategy for Land Consolidation and Improved Land Management in Armenia – Pre-Feasibility Study*. FAO.
- Ciaian, P. et al., (2012): *Sales Market Regulations for Agricultural Land in the EU Member States and Candidate Countries*. Factor Markets Working Paper no. 14.
- Consulting and Credit in Agriculture (CCA) (2003): *Agricultural Land Market in Moldova – Baseline Study*.

- Croatian Ministry of Agriculture, (2009): *Croatian Agriculture* (information brochure).
- Csaki, C. and Lerman Z., (1998): *Land reform and farm restructuring in Hungary during the 1990s*. In Wegren, S (edit): *Land Reform in the Former Soviet Union and Eastern Europe*.
- Csaki, C. and Lerman, Z. (2001): *Land Reform and Farm Restructuring in Moldova: A real breakthrough?* Discussion Paper, Hebrew University of Jerusalem.
- Cunga, A and Swinnen, J (1997): *Agricultural privatisation, land reform and farm restructuring in Albania* in Swinnen, J et al (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Cwiok, T. (2010): *There are many reasons why Poland is not likely to pass an act to restore property to prewar owners or their heirs*. American Investor Magazine, 18 June 2010.
- Dale, P & Baldwin, R. (2000): *Lessons Learnt from Emerging Land Markets in Central and Eastern Europe*. Conference paper from FIG Working Week, Prague 2000.
- Daugaliene, V. (2004): *Preparation for Land Consolidation in Lithuania in Modern Land Consolidation - Proceedings of a Symposium held by FIG Commission 7 on 10 and 11 September 2004 in Volvic, France*. FIG.
- Daugaliene, V.: (2007): *Legal framework of land management in Lithuania after 1990*. Conference paper for UNECE WPLA workshop in Munich, May 2007.
- Davidova, S. et al. (1997): *Bulgaria: economic and pilotics of post-reform farm structures*. In Swinnen, J et al (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Dells, K. (2008): *Management and Privatization of State-Owned Agricultural Land – Case Studies from Eastern Germany and Ukraine*. Conference paper for FIG/FAO/CNG Seminar in Verona, Italy, September 2008.
- Dudwick, N. et al. (2005): *A Stocktaking of Land Reform and Farm Restructuring in Bulgaria, Moldova, Azerbaijan and Kazakhstan*.
- East-West Management Institute (2001): *Moldova Land Privatization Programme– Final Report*.
- Ebanoidze, J. (2003): *Current Land Policy Issues in Georgia*. Land Reform Special. FAO.
- European Parliament (2010): *Private Properties Issues Following the Change of Political Regime in Former Socialist or Communist Countries – Study*. Directorate-General for Internal Policies.
- Giovarelli, R. and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO.
- Glenny, M. (1999): *The Balkans – Nationalism, War, and the Great Powers, 1804-1999*. Penguin Books.

- Haldrup, N.O. et al. (2003): *Land Consolidation and Land Tenure Assessment Mission, Republic of Serbia – Pre-Feasibility Study*. FAO.
- Hartvigsen, M. (2006): *Land Consolidation in Central and Eastern European Countries*. Conference paper for FIG Congress, Munich 2006.
- Hartvigsen, M. et al. (2013): *Experiences with land reform and land consolidation in Moldova*. FAO Land Tenure Journal no. 1/2013.
- Howe, K. S. (1998): *Politics, equity, and efficiency – Objectives and outcomes in Bulgarian land reform*. In Wegren, S (edit): *Land Reform in the Former Soviet Union and Eastern Europe*.
- Jürgenson, E. and Maasikamäe, S. (2009): *Progress of Land Reform in Estonian Rural Municipalities – Results of Preliminary Study*. Rural Land Scape trends.
- Jürgenson, E. et al. (2010): *The Impact of Land Fund Characteristics on the Land Reform Results in Estonian Rural Municipalities*. Technologijos Mokslai.
- Kabat, L. and Hagedorn, K. (1997): *Privatisation and decollectivisation policies and resulting structural changes of agriculture in Slovakia*. In Swinnen, J et al (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Keith, S. et al. (2009): *Options for the management of state land in rural areas in The former Yugoslav Republic of Macedonia*. FAO Land Reform Journal 2009/1.
- Kofoed, C.A. (1985): *My Share in the Stolypin Agrarian Reforms*. Odense University Press.
- Kopeva, D. et al. (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from Bulgaria*. FAO.
- Kosovo Ministry of Agriculture, Forestry and rural Development (2009): *Kosovo Agriculture and Rural Development Plan 2009-13*.
- Lazur, R., (2005): *Slovakia case study – land consolidation in Slovakia*. Paper for FAO land consolidation workshop, Prague 2005.
- Lerman, Z. et al, (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexinton Books.
- Lerman, Z. (2004b): *Successful land Individualization in Trans-Caucasia: Armenia, Azerbaijan, Georgia*. In Macey, D. et al. (edt.) (2004): *Building Market Institutions in Post-Communist Agriculture*. Lexinton Books.
- Lerman, Z. et al (2007): *Rethinking agricultural reform in Ukraine*. IAMO and FAO.
- Lisec, A. et al. (2012a): *The institutional framework of land consolidation – comparative analysis between Slovenia and Norway*. Paper presented at FIG Working Week, Rome.
- Lisec, A. (2012b). *Unpublished notes on land reform and land restitution in Slovenia*.
- Marosan, M. (2012): *Identification of Main Legal Issues Important for Successful Land Consolidation in Serbia*.

- Mathijs, E. and Meszaros, S. (1997): *Privatisation and restructuring of Hungarian agriculture*. In Swinnen, J. et al (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Melmed-Sanjak, J et al. (1998): *Project for the Analysis of Land Tenure and Agricultural Productivity in the Republic of Macedonia*. Working Paper no. 19. Land Tenure Center, University of Wisconsin.
- Meyers, W.H. and Kazlauskienė, N. (1998): *Land reform in Estonia, Latvia and Lithuania – A comparative analysis*. In Wegren, S (edit): *Land Reform in the Former Soviet Union and Eastern Europe*.
- Müller, W. et al. (2001): *Strategy for Land Consolidation and Improved Land Management in Georgia – Pre-Feasibility Study*. FAO.
- National Bureau of Statistics of the Republic of Moldova (2011): *Preliminary result of General Agricultural Census 2011*.
- National Land Service under the Ministry of Agriculture (2008): *Information brochure*.
- National Land Consolidation Strategy for Lithuania* (2006).
- Noev, N. et al. (2003): *The Development of Land Rental Markets in Bulgaria and the former Yugoslav Republic of Macedonia*.
- Nordic Consulting Group (2009): *Pilot Project on Land Consolidation in Croatia – Final Report*.
- OSCE & UNMIK (2008): *Privatization in Kosovo: Juridical Review of Kosovo Trust Agency Matters by the Special Chamber of the Supreme Court of Kosovo*.
- Ratinger, T & Rabinowicz, E (1997): *Changes in farming structures in the Czech Republic as a result of land reform and privatization*. In Swinnen, J et al (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Rembold, F. (2003): *Land fragmentation and its impact in Central and Eastern European countries and the Commonwealth of Independent States*. Land Reform nr. 1/2003. FAO.
- Rusu, M. et al (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from Romania*. FAO.
- Rusu, M. and Pamfil, V. (2005): *Agricultural land reform and land consolidation in Romania*. Workshop paper from FAO Land Consolidation workshop. Prague March 2005.
- Sabates-Wheeler, R., (2002). *Consolidation initiatives after land reform: Responses to multiple dimensions of land fragmentation in Eastern European agriculture*. Journal of International Development nr. 14, 1005-1018.
- Sarris, A. H. and Gavrilăscu, D. (1997): *Restructuring of farms and agricultural systems in Romania*. In Swinnen, J et al (edit): *Agricultural Privatisation,*

- Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Sedik, D. and Lerman Z. (2008): *Land Reform, Transition, and Rural Development*. Development & Transition no. 11/December 2008. UNDP and London School of Economics and Political Science.
- Stanfield, D. et al. (2004): *An Assessment of Property Rights in Kosovo*. USAID.
- Swinnen, J. et al. (Edt.) (1997): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Swinnen, J. & Mathijs, E. (1997): *Agricultural privatization, land reform and farm restructuring in Central and Eastern Europe: A comparative analysis*. In Swinnen, J. et al. (Edt.) (1997): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Swinnen, J. & Vranken, L. (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS).
- Travnicek, Z. et al, 2002: *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from the Czech Republic*. FAO 2002.
- Trnka, J. and Pivcova, J. (2005): *The situation of land management and reparcelling in the Czech Republic*. Paper for FAO land consolidation workshop, Prague 2005.
- Tsomaia, E. et al. (2003): *The other Agricultural Land Reform in Georgia: State Leasing of land to Private Farmers*. Prepared by Terra Institute under an agreement with USAID.
- UNECE Committee on Housing and Land Management (2007): *Land Administration Review: Azerbaijan*.
- USAID. (2011): *USAID Country Profile – Property rights and resource governance – Albania*.
- Van Dijk, T. (2003): *Dealing with Central European land fragmentation: A critical assessment of the use of Western European Instruments*. Eburon Delft.
- Vranken, L. et al. (2011): *Property rights imperfections and asset allocation: Co-ownership in Bulgaria*. Journal of Comparative Economics 39 (2011).
- Wegren, S. (1998): *The conduct and impact of land reform in Russia*. In Wegren, S (edit): *Land Reform in the Former Soviet Union and Eastern Europe*.
- Wegren, S. (2008): *The Limits of Land Reform in Russia*. Problems in Post – Communism. Vol. 55, no. 2, March/April 2008.
- World Bank (2001): *Project appraisal document for Albania Agriculture Services Project*.
- World Bank (2005): *Moldova Agricultural Policy Notes, Agricultural Land*.
- World Bank (2008): *Project performance assessment report; Farm Privatization Project, Azerbaijan*.

- Zadura, A. et al (2008): *Land Bank and Land Consolidation (Polish case)*.
Workshop paper for FAO land consolidation and land banking workshop in
Prague, June 2008.
- Zivkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY
countries*. Working paper prepared for FAO.

CHAPTER 6

6 *LAND REFORM AND LAND FRAGMENTATION IN CENTRAL AND EASTERN EUROPE*

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Abstract

It has often been stated that land fragmentation and farm structures characterized by small agricultural holdings and farms divided in a large number of parcels have been the side-effect of land reform in Central and Eastern Europe. This article reports the findings of a study of land reform in 25 countries in the region from 1989 and onwards and provides an overview of applied land reform approaches. With a basis in theory on land fragmentation, the linkage between land reform approaches and land fragmentation is explored. It is discussed in which situations land fragmentation is a barrier for the development of the agricultural and rural sector. The main finding is that land fragmentation is often hampering agricultural and rural development when both land ownership and land use is highly fragmented.

Keywords

Land reform, land fragmentation, farm structures, land privatization, Central and Eastern Europe

6.1 INTRODUCTION

The countries in Central and Eastern Europe (CEE) began a remarkable transition from centrally planned economies towards market economies in 1989 when the Berlin Wall fell and the Iron Curtain lifted. Land reforms with the objective to privatize state-owned agricultural land managed by large-scale collective and state farms were high on the political agenda in most countries in the region. More than 20 years later the stage of land reform varies. Some countries had already finalized land reform in the mid-1990s, others are still in the process, and a few have still not taken any significant steps. A number of books and research papers have been

published on land reform in individual countries and a few comprehensive overviews have been provided (e.g. Swinnen et al., 1997; Wegren, 1998; Giovarelli and Bledsoe, 2001; Lerman et al., 2004; Sedik and Lerman, 2008).

It has often been stated that land fragmentation and farm structures characterized by small agricultural holding sizes and farms divided in a large number of parcels have been a side-effect of land reform in the CEE countries (e.g. Rembold, 2003) and during the last two decades most of the countries in the region have introduced land consolidation instruments to address these structural problems in the agricultural sector. So far, however, only a few studies on land fragmentation in a Central and Eastern European context have been conducted (Sabates-Wheeler, 2002; Van Dijk, 2003b) and no comprehensive overview of the coherence between the chosen land reform approach and land fragmentation has been presented. This is the overall aim of this paper, which presents the results of a study that has attempted to fill the gap both in relation to providing an overview of land reform approaches and in addressing the land fragmentation issue in a Central and Eastern European context (Hartvigsen, 2013). The study has not conducted comprehensive socio-economic analysis but has been focusing on the causality between chosen land reform approach and the emerged land fragmentation.

More specifically, the article aims at providing the answers to the research questions: *(i) what is the linkage between the chosen land reform approach and the outcome in the form of farm structure and land fragmentation and (ii) in which situations land fragmentation becomes a barrier for the development of the rural land market and the agricultural and rural sector in general?*

This article begins by establishing the overview of the land reform approaches applied in 25 countries in Central and Eastern Europe from the Baltic and Central European countries in the West to Russia and the small Trans-Caucasus countries in the east, and to the Balkan countries in the south (figure 6.1).

Based on the overview of land reform approaches, the classical, mainly Western European, theory and definitions on land fragmentation (e.g. Binns, 1950; King and Burton, 1982; McPherson, 1982; Bentley, 1987) will be discussed together with the few theoretical attempts to assess land fragmentation in a Central and Eastern European context (Sabates-Wheeler, 2002; Van Dijk, 2003a,b).

With the conceptual framework on land fragmentation in place, we will discuss the farm structures and land fragmentation which have occurred in the CEE countries after the recent land reforms and hence be able to address the research questions.

Finally, the implications from the research will be used to give policy advice to governments and donors for future land reform and land privatization initiatives in the CEE countries where land reform is not finalized and in the Central Asian countries in the former Soviet Union. Based on the results of the study, this significant question can be answered: *how should the land reform approach be designed if the objective is to dismantle the large-scale corporate farms and build individual commercial farms without creating excessive land fragmentation?*



Figure 6.1: The 25 study countries in Central and Eastern Europe.

6.2 RESEARCH METHODOLOGY

The study of land reform in the countries in CEE, more specific the land reform approaches applied in the countries and its outcome in form of farm structures and land fragmentation, has been conducted through desk studies of a large number of papers and books. The level of documentation about land reform and its outcome vary considerably from country to country with a lot of information

available from Central European countries such as Hungary and the Czech Republic as well as from Albania and Russia and very little information available for the countries in former Yugoslavia (except Slovenia) and for the three Trans-Caucasus countries. The 25 countries have been divided into six groups based on geography and similarities in background. A detailed analysis and review of land reform in the study countries have been published by the author in the FAO Land Tenure Working Paper series as the first outcome of the study.²⁸⁰ This article is building on the results of the study and the above-mentioned working paper. Hence, the working paper can be seen as the main documentation for the conclusions drawn from the study and presented in this article.

The classical theory on land fragmentation is discussed together with the few theoretical attempts to assess land fragmentation in a Central and Eastern European context. This is done with the aim of establishing a conceptual framework which will allow us to further discuss the farm structures and land fragmentation which occurred in the region after the implementation of the recent land reforms and hence address the research questions.

There are two fundamentally different aspects of land fragmentation of agricultural land, fragmentation of ownership and land use fragmentation. The impact of land fragmentation on the rural land market and agricultural development lies in the intersection between ownership and use of agricultural land. Thus, it would be most desirable to have comparable quantitative data on both the ownership as well as the use of agricultural land in the study countries in order to be able to give a fully comprehensive answer to the research question about the impact of land fragmentation. As for the owner structure in the countries in relation to land fragmentation it would be desirable as a minimum to have data about sizes of agricultural holdings (e.g. average size of agricultural holding) and the average number of agricultural parcels per agricultural holding. In this article, the term “agricultural holding” is understood as the agricultural land owned by one entity, whether natural or legal person. The “farm”, on the other hand, includes the agricultural land actually utilized by the farm including land leased in. For the use of the land, at least comparable data on farm sizes and leasing of agricultural land would be desirable.

The study has unfortunately shown that not all the desirable data are available for all countries, and where available, they are often not fully comparable. Other studies of land reform in the CEE countries have faced similar problems.²⁸¹ In the

²⁸⁰ Hartvigsen, M. (2013): *Land Reform in Central and Eastern Europe after 1989 and its Outcome in Form of Farm Structures and Land Fragmentation*. FAO Land Tenure Working Paper 24.

²⁸¹ Swinnen, J. and Mathijs, E. (1997): *Agricultural privatization, land reform and farm restructuring in Central and Eastern Europe – A comparative analysis*. In Swinnen, J. et

study, the lack of fully comparable quantitative data in all countries has been overcome by supplementing the available quantitative data with qualitative descriptions and analyses. Based on these, the level of ownership fragmentation and land use fragmentation, respectively, will be assessed on a scale ranking the study countries from “low” over “medium” to “high”. Unfortunately, the available data and information does not allow for a more precise distinction.

6.3 LAND REFORM IN CENTRAL AND EASTERN EUROPE SINCE 1989

The 25 study countries in Central and Eastern Europe have chosen different approaches to land reform and land privatization. Often more than one approach has been applied simultaneously or subsequently in each country.

The two fundamentally different overall approaches to land reform in the CEE countries have been *restitution* of land rights to former owners and *distribution* of land rights to the rural population. Many and often contradictory factors such as historical background, land ownership situation at the time of collectivization and ethnicity have been important while designing the land reform process. In all the countries, considerations on equity and historical justice have been important with a potential conflict between the objectives of “equity” and “historical justice”.²⁸² Restitution can establish historical justice but has often not led to equity while it is the opposite with distribution. As a general rule the countries have either restituted land to former owners or distributed the state agricultural land to the rural population. None of the countries have applied both as a main land reform approach.

The study of land reform has identified six land reform approaches applied in the 25 countries.²⁸³ Four of these six approaches are related to *restitution* while two are related to *distribution*:

Land reform approaches related to restitution:

- *Restitution to former owners (including allocation of other land when restitution in the old boundaries is not possible)*
- *Withdrawal of formally private land from collective farms*
- *Compensation (in state vouchers, bonds or money)*

al. (ed.): *Agricultural Privatisation. Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd., Aldershot.

²⁸² *Ibid.*, p. 342.

²⁸³ Hartvigsen, M. (2013): *Land Reform in Central and Eastern Europe after 1989 and its Outcome in Form of Farm Structures and Land Fragmentation*. FAO Land Tenure Working Paper 24.

- *Privatization through sale of state land*

Land reform approaches related to distribution:

- *Distribution in physical parcels*
- *Distribution in land shares*

Some of the approaches are related to each other and applied in combination. The main as well as secondary land reform approaches applied in each country are displayed in figure 6.2 and the main approaches are furthermore displayed on the map of the region in figure 6.3. The identified *main* land reform approaches are defined as the one or two main reform instruments in each country measured primarily by the amount of agricultural land transferred through the specific approach.

		Land Reform approach						
		Restitution			Distribution			
Region	Country	Restitution to former owners (including other land when restitution on old boundaries not possible)	Withdrawal of formally private land from collective farms	Compensation	Privatization through sale of State land	Distribution in physical parcels	Distribution in land shares	No land reform
Baltic countries	Estonia	X		o	X			
	Latvia	X		o	o			
	Lithuania	X		o	o			
Central European countries	Czech Republic	X	X	o	o			
	Slovakia	X	X	o	o			
	Hungary			X	X	X		
	Poland				X			
	Eastern Germany	X	X	o	X			
Balkan countries except former Yugoslavia	Albania	o		o		X		
	Romania	X		o		o		
Former Yugoslavia countries	Bulgaria	X		o	o			
	Slovenia	X						
	Croatia	X		o	X			
	Serbia	X			X			
	Bosnia-Herzegovina							X
	Montenegro	X			X			
Western CIS countries	Macedonia	X						
	Kosovo				X			
	Moldova		o			X	o	
	Ukraine		o			X	X	
	Russian Federation		o				X	
Trans Caucasus countries	Belarus							X
	Armenia					X		
	Georgia					X		
	Azerbaijan		o			X	o	

X – Main approach

o – Secondary approach

Figure 6.2: Land Reform approaches applied in the study countries.

A *secondary* approach is defined as a significant land reform approach in the country but compared to the main approaches of less importance and use. Based on the study, it is in most of the countries relatively uncomplicated to distinguish between main and secondary land reform approaches. Lithuania, where the predominant land reform approach has been restitution to former owners supplemented by compensation to former owners when restitution has not been

possible and privatization of state land through sale, is an example of a country where it is un-complicated to distinguish. In other countries, the picture is more blurry. In Eastern Germany for example, three main land reform approaches have been applied simultaneously in an integrated process; restitution to former owners, withdrawal of formally private land from collective farms and privatization through sale, and there is no justification to say that one approach has been more important than the others.

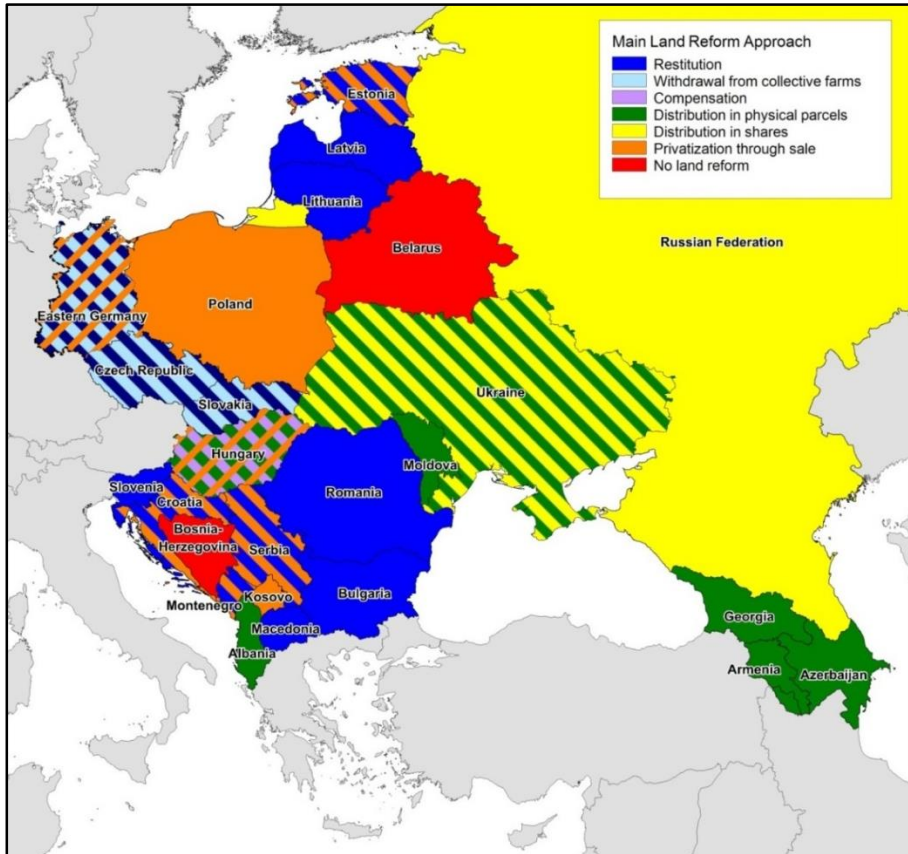


Figure 6.3: Main Land Reform approach in the study countries.

In total, 16 of the 25 study countries have applied one or more of the *restitution* approaches as a main land reform approach while 7 countries have *distributed* land to the rural population as a main approach. Hungary had a unique land reform process and is the only country where approaches related to both restitution and distribution were applied as main approaches. The Hungarian case is explained in section 6.3.3.

In the following, the six identified land reform approaches will be explained together with their dissemination and country examples.

6.3.1 RESTITUTION OF LAND RIGHTS TO FORMER OWNERS

Most of the countries where private agricultural land was nationalized and the formal land rights were lost after the communists came to power following WWII chose to *restitute* land rights to the former owners and their heirs after 1989.

In 13 of the 25 countries, restitution to former owners has been among the main land reform approaches. The three Baltic countries, the Central European countries (except Poland and Hungary), Romania and Bulgaria and five of the seven countries in former Yugoslavia all have chosen to restitute land rights to the former owners.

The Baltic countries have restituted the rights to agricultural land as they were in 1940 before WWII and the subsequent occupation by the Soviet Union. In the Central European countries as well as in Romania, land reforms were implemented immediately after WWII (1944-1949) in which agricultural land and other property belonging to ethnic Germans and their collaborators together with private agricultural land from large estates were confiscated without compensation. In most of the countries, the confiscated land was distributed to small family farmers, the landless rural population and to war refugees. In Romania for example, 1.4 million ha was distributed during 1945-1947 to 800,000 families owning less than 5 ha.²⁸⁴ The Central European countries, which restituted land rights to former owners, all chose a date for restitution after the post-WWII land reforms were implemented. Thus, as a general rule, those who lost their property rights during 1944-1949 were not restituted. The same was the case in Romania.

The normal restitution procedure has been that citizens were given a deadline, typically in the early 1990s, to claim land for restitution and to submit documentation. In all 13 countries, where restitution was applied, land was restituted in the former boundaries when possible. In many situations, however, the physical situations had changed since the land rights were lost (e.g. through urban development, infrastructure works etc.). When physical restitution was not possible, the claimants normally had the option to receive other state land instead of the lost property. In Lithuania, a *land reform land management plan* was prepared for each of 1,400 cadaster areas based on the claims for restitution.²⁸⁵ If

²⁸⁴ Rusu, M., Florian, V., Popa, M., Marin, P., Pamfil, V. (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from Romania*. FAO, p. 6-7.

²⁸⁵ Daugaliene, V. (2004): *Preparation for Land Consolidation in Lithuania*. In Modern Land Consolidation - Proceedings of a Symposium held by FIG Commission 7 on 10 and 11 September 2004 in Volvic, France. FIG, p. 126.

the family members were no longer living in the area where the lost property had been located, it was possible to claim land in other regions of the country. In Lithuania, in total nearly 4 million ha were restituted to former owners and in total 715,000 persons claimed land to be restituted.

It is characteristic that the countries, where private agricultural land was confiscated after the late 1940s, chose to reconstitute land to the former owners. Poland, Hungary, Albania and Kosovo as well as the western regions of Ukraine and Moldova are exceptions from this general rule. None of the countries in former Soviet Union where private land rights were nationalized already in the period 1920-1930 have restituted land to former owners.

6.3.2 WITHDRAWAL OF FORMALLY PRIVATE LAND FROM COLLECTIVE FARMS

In the Czech Republic, Slovakia and Eastern Germany, the agricultural land and other property of the members of the collective farms were often not formally expropriated during the collectivization process and the owners remained in the land registers. The use rights, however, were lost to the management of the collective farms. After 1991, the formal owners or their heirs were in most cases able to take possession over their land in an informal procedure through *withdrawal of the land from the collective farms* without any formal or legal procedures. In some studies of land reform, withdrawal of property from the collective farms is understood as a variant of restitution of property right to former owners.²⁸⁶

Furthermore, withdrawal of formally private land from collective farms has been applied as a land reform approach in a completely different context in the former Soviet Union countries Russia, Ukraine, Azerbaijan and Moldova. This is discussed in section 6.3.6.

6.3.3 COMPENSATION

The study has identified *compensation* as one of the applied land reform approaches in 11 of the 25 study countries. In the Baltic countries and the countries in Central Europe as well as in Romania and Bulgaria where land was restituted, the restitution procedures were accompanied by an option for compensation when physical restitution was not possible. In these countries, compensation has been a secondary land reform approach.

²⁸⁶ Sedik, D. and Lerman, Z. (2008): *Land Reform, Transition, and rural Development*. Development & Transition no. 11 / December 2008. UNDP and London School of Economics and Political Science, p. 5.

Land reform in Hungary is unique among the study countries and the only country where compensation has been a main land reform approach. According to the *Compensation Law* adopted in 1991, Hungarian citizens whose property was expropriated after June 1949 were entitled to compensation.²⁸⁷ The law covered not only agricultural land but all assets nationalized from the citizens between 1949 and the beginning of transition in 1990. Thus, Hungary decided for compensation instead of physical restitution and the private owners who had land expropriated without compensation between 1945 and 1949 were not compensated as it was also the case with restitution in the other Central European countries.

The instrument for compensation in Hungary was compensation vouchers which could be used to purchase state property such as apartments, shares in state enterprises and also agricultural land in physical parcels. The vouchers could be freely traded on the market. The right to purchase agricultural land, however, was limited to the original receiver of the voucher. The cooperative farms were required to set aside for compensation purposes the land acquired by the cooperative after June 1949. Then the land was auctioned in individual parcels and purchased with the vouchers as payment. Thus, former landowners who wanted to get back agricultural land participated in the auctions. The vouchers received by the former owners were based on an estimated value of the lost property.

6.3.4 PRIVATIZATION THROUGH SALE OF STATE LAND

Privatization of state agricultural land through sale has been a main land reform approach in eight of the study countries and a secondary approach in additional five countries. In Poland and Kosovo, privatization through sale has been the only land reform approach applied. In the other countries, sale of state land has been applied in combination with other approaches, often restitution.

Poland's borders dramatically changed after WWII as the eastern part of the pre-war territory was annexed by Soviet Union and instead Poland received former German territory east of the Oder-Neisse line. In Poland, the collectivization process had largely failed and as much as 75% of the agricultural land stayed in private ownership as well as in private use by individual family farms throughout the socialist era.²⁸⁸ These specific historical reasons led in Poland to the political decision of not restituting agricultural land to former owners. Instead, the state land, mainly located in the former German territories, is being privatized through

²⁸⁷ Csaki, C. and Lerman, Z. (1998): *Land reform and farm restructuring in Hungary during the 1990s*. In Wegren, S. (edit.): *Land Reform in the Former Soviet Union and Eastern Europe*. Routledge, p. 228-230.

²⁸⁸ ACE Project (1999): *The Development of Land Markets in Central and Eastern Europe – Final Report*, p. 162-170.

sale. The land privatization approach was to sell the state land in auctions and through direct sale to eligible groups. Poland has chosen to try to use the privatization process to improve the local farm structures by giving preference for purchase to specific groups. According to the *privatization law*, the former owners or their heirs have the first right to purchase state land. The current leaseholders are granted the second right to purchase. Land can also be sold in restricted auctions to family farmers, often resulting in sales prices much lower than the normal market price.²⁸⁹ By the end of 2011, 2.2 million ha had been privatized through auctions and direct sale and 1.46 million ha of the remaining 1.95 million ha had been leased out to private farmers. The privatization process in Poland has been hampered by restitution claims submitted as lawsuits against the Polish state under civil law for 450,000 ha of the state land. Until 2010, the sale was blocked until the civil restitution cases had been settled. However, from 2010 sale of the state land with restitution claims has been possible with a first right to buy for the former owners and their successors at the normal market price.

In Kosovo, the Kosovo Trust Agency (KTA) was established in 2002 with the mandate to privatize the around 12% of the agricultural land that was owned by the state.²⁹⁰ State land has to a large degree been privatized in auctions in large units without taking into consideration the possibility of claims for restitution. As a consequence, future physical restitution will not be possible and claimants will be limited to compensation.

Eleven of the 25 study countries have applied the sale of state land in combination with other land reform approaches. Often state land remaining after the restitution process has been privatized through sale at auctions.

6.3.5 DISTRIBUTION IN PHYSICAL PARCELS

In seven of the 25 study countries, the state agricultural land was during the 1990s and the early 2000s privatized through *distribution of physical parcels* to the rural population as the main land reform approach. Of the countries in former Soviet Union, the state land was distributed in physical parcels in Armenia, Georgia, Azerbaijan, Moldova and Ukraine. In the latter three, physical distribution was conducted after first having distributed the land in paper land shares as explained below. Of the countries outside former Soviet Union, land was distributed in physical parcels as a main land reform approach only in Albania and Hungary and as a secondary approach in Romania.

²⁸⁹ Zadura, A., Zawadska, M., Struziak, A. (2008): *Land Bank and Land Consolidation (Polish case)*. Workshop paper for FAO land consolidation and land banking workshop in Prague, June 2008.

²⁹⁰ OSCE & UNMIK (2008): *Privatization in Kosovo: Juridical Review of Kosovo Trust Agency Matters* by the Special Chamber of the Supreme Court of Kosovo, p. 6-7.

In Moldova, the second stage of land reform was launched in 1997 through the National Land Programme. *Land arrangement projects* were prepared by village land commissions for the physical distribution of the state land to the eligible persons in the village and approved by the councils of the local municipalities after taking into consideration the opinion of the owners of land shares. The land distribution ended in 2001 and resulted in the privatization of 1,004 collective and state farms. More than 98 % of agricultural land subject to privatization (around 1.7 million ha) was privatized to almost 1.1 million new owners. Often each eligible person received one or two parcels of arable land, one parcel of orchard and one parcel of vineyard. In total, each person received in average around 1.56 ha distributed in 3-4 physical parcels.²⁹¹

In Albania, Armenia, Georgia and Azerbaijan, land distribution in physical parcels to a large degree followed the same procedures as in Moldova with locally elected commissions being responsible for the actual distribution. In only 18 months during 1991-92, Albania distributed 700,000 ha of arable land to nearly 500,000 family farms separated into nearly 2 million parcels.²⁹²

In addition to compensation to former owners through the voucher system, Hungary distributed land to the landless members of the collective farms and employees of state farms. Thus, 1.5 million new owners received in total 3 million ha through distribution of physical parcels.²⁹³

In Romania, even though the main land reform approach ended up being restitution of land to the former owners, agricultural land was in 1990 distributed with up to 0.50 ha to each member of the agricultural cooperatives and pensioners during the political chaos after the overthrowing of the Ceausescu regime where the political riots were accompanied by considerable spontaneous taking over of state agricultural land.²⁹⁴

6.3.6 DISTRIBUTION IN LAND SHARES

In the Soviet Union, all agricultural land was owned by the state and used for large-scale farming in collective (kolkhozes) or state farms (sovkhozes) and typically organized with one large farm per village. Russia, Ukraine, Moldova and

²⁹¹ Hartvigsen, M., Gorgan, M., Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012.

²⁹² Bloch, P. (1998): *Picking up the pieces – consolidation of Albania's radical land reform*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*. Routledge, p. 189-194.

²⁹³ ACE Project (1999): *The Development of Land Markets in Central and Eastern Europe – Final Report*, p. 134-135.

²⁹⁴ Rusu, M., Florian, V., Popa, M., Marin, P., Pamfil, V. (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from Romania*. FAO, p. 9-13.

Azerbaijan privatized in the early 1990s most of the state agricultural land managed by the collective and state farms through the distribution of the ownership of the large corporate farms to former collective farm members and state farm workers in form of paper land shares. Land shares can be bought and sold from individuals at the market, leased from individuals or invested in the equity capital of the privatized farm enterprises.²⁹⁵ Only the household plots, where the rural population had been granted the use rights during the Soviet period, were in the initial phase of land reform in the early 1990s registered to the users as ownership of individual parcels.

In Russia, Ukraine, Azerbaijan and Moldova, owners of land shares who wanted to create an individual family farm were by law allowed to withdraw from the corporate farm with their land as physical land parcels. However, for a number of reasons, few have chosen to leave the large corporate farms and have often leased back the land shares to these. In Moldova, less than 10 percent of members of collective farms had left during 1992-1996 through withdrawal of their land and were trying to farm individually, often without any equipment. Administrative support for land privatization was relatively weak and in many cases the management of collective and state farms worked against the process.²⁹⁶

From the mid-1990s, land reform in Moldova and Azerbaijan continued with distribution in physical parcels (see section 6.3.5). The same happened in Ukraine from 2000, whereas in Russia, agricultural land has so far not been distributed in physical parcels.

6.3.7 NO LAND REFORM

Finally, two countries, Bosnia-Herzegovina and Belarus, have not yet in reality started land reform. In Bosnia-Herzegovina, where around 96% of the agricultural land was in private ownership and use in family farms throughout the Yugoslavia socialist era, transition reforms have been hampered by the war in the 1990s and by complicated administrative structures afterwards. In Belarus, private ownership to agricultural land is still only allowed to household plots, and large-scale corporate farms continue “business as usual”.

6.4 THEORY ON LAND FRAGMENTATION

Modern agriculture developed in Western Europe after WWII with mechanization and specialization followed by a rapid structural development and increase in productivity. At the same time, industrialization continued and a large part of the

²⁹⁵ Lerman, Z., Csaki, C., Feder, G. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books.

²⁹⁶ Hartvigsen, M., Gorgan, M., Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012.

rural population followed job opportunities in urban areas. The share of the populations employed in the agricultural sector dramatically decreased.

After WWII, land fragmentation was by policy makers and experts increasingly perceived as an important obstacle for continued agricultural development as land fragmentation induces increased production costs. Early on, FAO, the Food and Agriculture Organization of the United Nations, after it was founded in 1945, had land fragmentation and land consolidation, the other side of the coin, among its priority issues. The first comprehensive publication dealing with the consolidation of fragmented agricultural holdings was published by FAO in 1950.²⁹⁷ Until the 1980s much research and many scientific papers dealt with the advantages and mainly the disadvantages of land fragmentation. King and Burton provide an excellent overview of the classical land fragmentation theory.²⁹⁸

In the following section, this classical, mainly Western European, theory on land fragmentation will be discussed together with the few recent theoretical attempts to discuss land fragmentation in a Central and Eastern European transition context.

There has never been one commonly accepted definition of *land fragmentation* and the term is often used by policy makers, experts and farmers in different understandings and different context without the exact understanding being clear or defined.

Binns identified four fundamentally different types of land fragmentation rooted in different reasons for fragmentation; 1) that which is unavoidable by reason of natural conditions, 2) that which arises from physical conditions from human activities not connected with agriculture (e.g. due to construction of roads, railways, canals etc.), 3) that which is agricultural rational and 4) that which, not falling within the first two categories, is agriculturally irrational.²⁹⁹ Thus, not all land fragmentation can or shall be combatted.

King and Burton see the fragmentation of agricultural land as basically being concerned with farms which are poorly organized in location and space.³⁰⁰ The term fragmentation is used in two quite distinct senses. First, the division of a farm into undersized units (parcels) which are too small for rational exploitation.

²⁹⁷ Binns, B. (1950): *The Consolidation of Fragmented Agricultural Holdings*. FAO.

²⁹⁸ King, R. and Burton, S. (1982): *Land fragmentation: notes on a fundamental rural spatial problem*. Progress in Human Geography 6(4): 475-494.

²⁹⁹ Binns, B. (1950): *The Consolidation of Fragmented Agricultural Holdings*. FAO, p. 9.

³⁰⁰ King, R. and Burton, S. (1982): *Land fragmentation: notes on a fundamental rural spatial problem*. Progress in Human Geography 6(4), p. 475-478.

Second, the situation whereby an individual holding is split into many non-contiguous parcels.

Several attempts have been made to measure the level of fragmentation in a certain area. Dovring (1960) introduced the notion of *excessive fragmentation*, which he defined to exist if the number of parcels in a farm exceeded its size. Thus, a 20 ha farm would be excessively fragmented if it consisted of more than 20 parcels.³⁰¹ King and Burton identified several relevant parameters.³⁰² These include: 1) the size of the holding, 2) the number of parcels, 3) the size of the parcels, 4) the size distribution of the parcels, 5) the spatial distribution of the parcels, and 6) the shape characteristics of the parcels. The simplest measure of fragmentation is the number of parcels per holding, which ignores parcel size and distance. The Simmon's fragmentation index (1964) expresses the relationship between the number of parcels and the relative size of the parcels.³⁰³ Distance is not considered. Other attempts of creating a fragmentation index were done by Januszewski (1968), Igbozurike (1974) and Schmook (1976).³⁰⁴ The most recent attempt to develop a fragmentation index is the Demetriou index,³⁰⁵ which is more flexible and problem specific than its predecessors as it allows to weight the different factors according to the specific situation and also includes fragmentation through co-ownership.

Fragmentation is not just a historical phenomenon but still on-going in many farm structures. King and Burton divide the causes of fragmentation into four categories: 1) sociocultural, 2) economic, 3) physical and 4) operational.³⁰⁶ Fragmentation through inheritance is particularly important among the sociocultural causes. Inheritance especially leads to fragmentation when inheritance laws and local customs prescribe equal division of land amongst heirs and is further exacerbated where heirs are able to demand equal shares of different types of land. Economic processes can also lead to fragmentation. Ownership and farm structures which at one time were rational may become irrational over time as mechanization and technology of farming develops. Furthermore, the structural development where agricultural holdings and farms are enlarged to maintain or increase competitiveness through purchase or renting of additional land often also

³⁰¹ Cited in McPherson, M. (1982): *Land Fragmentation: A Selected Literature Review*. Development Discussion Paper No. 141. Harvard Institute for International Development, Harvard University, p. 5-6.

³⁰² King, R. and Burton, S. (1982): *Land fragmentation: notes on a fundamental rural spatial problem*. Progress in Human Geography 6(4), p. 475-480.

³⁰³ Ibid., p. 476-477.

³⁰⁴ Cited in King, R. and Burton, S. (1982): *Land fragmentation: notes on a fundamental rural spatial problem*. Progress in Human Geography 6(4): 475-494.

³⁰⁵ Demetriou, D., Stillwell, J., See, L., 2013. *A new methodology for measuring land fragmentation*. Computers, Environment and Urban Systems 39, 71-80.

³⁰⁶ King, R. and Burton, S. (1982): *Land fragmentation: notes on a fundamental rural spatial problem*. Progress in Human Geography 6(4), p. 480-489.

leads to fragmentation when the additional parcels are not contiguous to already farmed land. Fragmentation may also be the result of operational processes such as establishment of windbreaks between fields or construction of rural infrastructure. Extensive fragmentation can, when the parcels become so small that they are not economically viable, result in land abandonment.³⁰⁷

There are numerous books and scientific articles about the disadvantages of fragmentation which relate to increased production costs. McPherson concludes based on a comprehensive literature review that most authors have focused on three reasons why land fragmentation is detrimental in agriculture.³⁰⁸ First, fragmentation hinders the modernization of agriculture, especially the increased use of mechanization and the rational development of irrigation and other agricultural infrastructure. Second, fragmentation generates a variety of economic inefficiencies through the waste of factors of production such as labour, time, fuel etc. Third, fragmentation is costly to alleviate.

The classical theory on fragmentation recognized, however, also, that fragmentation can bring advantages to the farmer. Fragmentation reduces risk of failed harvest due to drought, hail, disease and other natural disasters especially in farming conditions with a variety of soils and growing conditions.³⁰⁹ Fragmentation also tends to preserve biodiversity as opposed to the consolidation of parcels which in most European countries resulted in loss of biodiversity when hedges and other ways of separation between consolidated parcels were removed and mono-cultures established during the decades of agricultural modernization from the 1950s to the 1980s.

As mentioned in the Introduction, few theoretical attempts have been made to discuss land fragmentation in a Central and Eastern European post-land reform context. Sabates-Wheeler argues, based on studies of land reform and land fragmentation in Albania, Romania and Bulgaria that land fragmentation has at least four dimensions: 1) physical fragmentation, 2) social fragmentation, 3) activity fragmentation and 4) ownership fragmentation.³¹⁰ Physical fragmentation has in her understanding basically the same meaning as land fragmentation in the

³⁰⁷ Bentley, J.W. (1987): *Economic and Ecological Approaches to Land Fragmentation: In Defense of A Much-Maligned Phenomenon*. Annual Review of Anthropology, Vol. 16, p. 47.

³⁰⁸ McPherson, M. (1982): *Land Fragmentation: A Selected Literature Review*. Development Discussion Paper No. 141. Harvard Institute for International Development, Harvard University, p. 9-10.

³⁰⁹ Bentley, J.W. (1987): *Economic and Ecological Approaches to Land Fragmentation: In Defense of A Much-Maligned Phenomenon*. Annual Review of Anthropology, Vol. 16, p. 50-54.

³¹⁰ Sabates-Wheeler, R. (2002): *Consolidation initiatives after land reform: Responses to multiple dimensions of land fragmentation in Eastern European agriculture*. Journal of International Development nr. 14, p. 1005-1010.

classical Western European understanding. She argues that social fragmentation understood as a separation of those who own the land and those who are able to work it, which has often happened in CEE countries where land was restituted to former owners, is an equally important dimension of fragmentation. A third dimension is activity fragmentation which refers to a situation whereby the complementary means of production around land usage become fragmented from each other. Land reform has in some countries led to a mismatch between small holding size and large-scale machinery. Many new farmers have limited access to suitable equipment and a mismatch has occurred between small holdings and large-scale irrigation systems etc. Sabates-Wheeler predicts that land consolidation strategies and programmes being introduced in CEE countries with the support of international development organizations and donors are likely to fail because they only consider one dimension of fragmentation – physical fragmentation.



Figure 6.4: Excessive fragmentation of land ownership and land use in Terbuf Municipality, Albania. The illustration shows an excerpt of the ortophoto from one of the villages in the municipality with overlay of the cadaster map. In average, each family owns 1.72 ha distributed in 5.33 physical parcels. The parcels are often distributed in a distance of 3-4 km from the homestead.

It is not the objective of this article to discuss failure or success of land consolidation initiatives and programmes after the implementation of land reform

in the CEE countries. However, a few remarks to Sabates-Wheeler's four dimensions of fragmentation are appropriate. Sabates-Wheeler introduces a very wide understanding of land fragmentation. Thus, almost all of the numerous constraints to agricultural and rural development in Central and Eastern Europe are in her understanding part of the land fragmentation problem complex. It could, on the contrary, be claimed that an understanding this wide of land fragmentation is hindering the solution. No government strategies, programmes or donor projects can at the same time deal with all the problems of agricultural and rural development in the CEE countries. However, approaches and initiatives should be coordinated and integrated wherever possible. Recent experience from Moldova and a number of other CEE countries show that voluntary land consolidation instruments can be successful in addressing the structural problems caused by land fragmentation when integrated in a broader local rural development context.³¹¹

Van Dijk contributes to the understanding of land fragmentation in a Central and Eastern European context. He argues that we have to be careful not to confuse land-ownership and land-use problems.³¹² Van Dijk attempts to put forward four definitions of fragmentation: 1) ownership fragmentation, 2) land use fragmentation, 3) internal fragmentation and 4) discrepancy between ownership and use.³¹³ Ownership fragmentation refers to the situation where the ownership of agricultural land is split between many owners of small and often badly shaped parcels. Land use fragmentation has to do with the actual use of the land. Despite fragmented ownership, the use of the land may be consolidated through lease agreement and the land used in large and regular fields. Internal fragmentation is by Van Dijk understood as the fragmentation within a farm. The agricultural land utilized by a farm (whether owned or leased) may be distributed into a large number of non-contiguous parcels often with long distance from the homestead to the parcels and between the parcels. According to Van Dijk, *fragmentation is not a matter of black or white, but a grey area of increasingly limiting operational disadvantages, the nature of which depends of the type of fragmentation.*³¹⁴

With the background in classical theory on land fragmentation as discussed above and the more recent work of Van Dijk, especially his distinction between fragmentation of land ownership and fragmentation of land use, the conceptual framework is in place to have a closer look at the farm structures and land

³¹¹ Hartvigsen, M., Gorgan, M., Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012.

³¹² Van Dijk, T. (2003a): *Scenarios of Central European land fragmentation*. Land Use Policy 20 (2003), p. 150.

³¹³ Van Dijk, T. (2003b): *Dealing with Central European land fragmentation: A critical assessment of the use of Western European Instruments*. Eburon Delft, p. 15-18.

³¹⁴ *Ibid.*, p. 22.

fragmentation which occurred in the CEE countries after the implementation of land reform from 1989 and onwards. This will be analyzed in the following section.

6.5 COHERENCE BETWEEN LAND REFORM, FARM STRUCTURES AND LAND FRAGMENTATION IN CENTRAL AND EASTERN EUROPE

In some of the CEE countries, land reforms have after 1989 completely changed the farm structures that existed during the socialist era while in other countries, the farm structures remain basically the same.³¹⁵ As an outcome of the research, the study countries are ranked in three categories of low, medium and high fragmentation of ownership and of land use. These categories are based on qualitative assessment and are further explained below.

In the three *Baltic countries*, the restitution of land to the pre-WWII owners and their successors has, as intended, resulted in a complete breakup of the large-scale collective and state farms and in an ownership structure similar to that before 1940 with today in *Lithuania* an average agricultural holding size around 5.3 ha. After land reform, farm structures in the *Baltic countries* are dominated by a mix of large corporate farms and medium-large sized family farms. Fragmentation of both land ownership and of land use in a medium level is the result of the implemented land reforms.

The *Central European countries* had relatively similar farm structures before WWII and all countries implemented land reforms immediately after WWII where agricultural land from large estates was confiscated and distributed or sold to landless peasants, war refugees and small farmers. Despite this, the land reform approaches chosen in the countries after 1989 have varied substantially. In the *Czech Republic* and *Slovakia*, the land reform approaches, with restitution to the former owners and withdrawal of agricultural land from the collective farms, where the formal land rights were maintained during collectivization, resulted in extreme fragmentation of land ownership and in extensive co-ownership of agricultural land. Characterizing the situation in *Slovakia*, Dale & Baldwin state that “a single field of twenty hectares may have more than three hundred owners and over a thousand co-owners”.³¹⁶ The land reforms however, had very little impact on the land use and farm structures which remain dominated completely by large corporate farms, often the successors of the cooperatives and state farms. In 2005 in the *Czech Republic*, as much as 86 % of the total utilized agricultural

³¹⁵ Hartvigsen, M. (2013): *Land Reform in Central and Eastern Europe after 1989 and its Outcome in Form of Farm Structures and Land Fragmentation*. FAO Land Tenure Working Paper 24.

³¹⁶ Dale, P. and Baldwin, R. (2000): *Lessons Learnt from Emerging Land Markets in Central and Eastern Europe*. Conference Paper from FIG Working Week, Prague, p. 4.

land was leased by corporate farms from the new owners, which often have little interest in farming.³¹⁷ Thus, despite extreme fragmentation of land ownership, the fragmentation of land use is low in the *Czech Republic* and *Slovakia*. Land reform in *Eastern Germany* resulted in an owner structure of agricultural land much less fragmented. Large corporate farms also dominate the farm structures but commercial family farms as well play a considerable role and the land use fragmentation is low to medium.

Hungary and *Poland* stand out from the other three Central European countries. In *Poland*, the collectivization had failed and 75 percent of the agricultural land was both owned and used by small family farms during the socialist era. The land reform, with mainly privatization of state land through sale, has had only little impact on the farm structures. The agricultural land remains highly fragmented both in ownership and land use, not because of the recent land reform, but due to the pre-WWII farm structures and the land reform immediately after WWII, where land was distributed to small-scale family farms. Land fragmentation is most extensive in the areas dominated by small-scale family farms and least extensive in northwest on the territory annexed from Germany after WWII. In *Hungary*, the voucher land reform and auctioning of the state land resulted in a highly fragmented ownership structure. The farm structures are more mixed than in most of the other study countries with the presence of both small-scale subsistence family farms, medium- and large-sized commercial family farmers as well as large corporate farms fully operating on rented land. Leasing of land is common. The land use fragmentation can be characterized as being on a medium level compared to the other CEE countries.

The *Balkan countries*, *Albania*, *Romania* and *Bulgaria* have implemented land reforms which resulted in a complete breakup of the large-scale collective and state farms that dominated the farm structures before 1989. Today, the ownership of agricultural land is highly fragmented in all three countries. In *Albania*, where the state agricultural land was distributed to the rural population in physical parcels, the average agricultural holding size (owned land) after land reform in the early 1990s was 1.05 ha typically divided into 2-5 parcels. In 2011, Albania had about 390,000 family farms with an average of 1.26 ha (including leased land) divided in 4.7 parcels and with an average parcel size of 0.27 ha. Leasing of land is not common as more than 90 % of the arable land is farmed by the owners in small-scale mainly subsistence family farms. Hence, the owner structures and the land use structures are almost convergent resulting in excessive fragmentation of both ownership and land use.

³¹⁷ Swinnen, J. and Vranken, L. (2009): *Land and EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS). Brussels, p. 16.

In both *Romania* and *Bulgaria*, where the main land reform approach was restitution of land rights to former owners, the outcome of land reforms has been highly polarized farm structures, with on one hand a large number of small family farms, mainly engaged in subsistence farming, and on the other hand a relatively small number of large-scale corporate commercial farms. Both the fragmentation of ownership and of land use is excessive. In *Bulgaria*, the average size of agricultural holdings after land reform is 2.0 ha in average distributed in 4-5 parcels and thus, an average parcel size of 0.4-0.5 ha. Fragmentation of land ownership is, however, considerably worse than even these figures suggest as co-ownership is a very common phenomenon where many parcels have numerous co-owners.³¹⁸ Among the reasons for this situation are legal provisions, which define a minimum parcel size. Thus, the attempt to stop further physical fragmentation of ownership has instead led to fragmentation in form of co-ownership.

The seven countries in *former Yugoslavia* had a different starting point for land reform than in most of the other CEE countries. Like in *Poland*, the majority of the agricultural land in Yugoslavia was with many restrictions owned and farmed by small individual family farms during the socialist era. This amounted in 1985 for as much as 82 % of the agricultural land. Thus, the land reform activities have not fundamentally changed the ownership of agricultural land. The excessive fragmentation of land ownership which was characteristic before WWII remains basically the same today. The farm structures in the seven countries are dualistic and remain dominated by a large number of small family farms on one side often with several fragmented land parcels and on the other side a limited number of large-scale corporate farms, often the successor of the Socially Owned Enterprises (SOE's). *Slovenia* has the largest average agricultural holding size with 6.3 ha but in average separated into 22 land parcels. The other six countries all have an average size of agricultural holdings between 2 and 3 ha, normally divided into 4-8 parcels. The average size of agricultural land parcels is in all seven countries close to 0.3 ha. The land registers were often not updated in Yugoslavia. These problems continue to plague the countries. The registered owners have often been deceased for decades and the land divided informally or in co-ownership between family members. In most of the countries (e.g. *Croatia* and *Bosnia-Herzegovina*), land abandonment is widespread even on the fertile land. Ownership land fragmentation, both formal and informal, continues through inheritance.

Three of the *Western CIS countries*, *Moldova*, *Ukraine* and the *Russian Federation* have in land reforms distributed the state owned agricultural land to the rural population. In *Belarus*, only household plots have been privatized and the agricultural land remains state owned and private ownership of agricultural

³¹⁸ Vranken, L., Macours, K., Noev, N., Swinnen, J. (2011): *Property rights imperfections and asset allocation: Co-ownership in Bulgaria*. *Journal of Comparative Economics* 39.

land is still not allowed. Hence, the ownership of agricultural land is not fragmented. The farm structures in *Belarus* are still completely dominated by large-scale state subsidized corporate farms and consequently the level of land use fragmentation is very low. In *the Russian Federation*, the agricultural land was distributed in paper land shares to the rural population in the early 1990s. Because of the land share privatization, the ownership of agricultural land has not been fragmented in the same way as in most of the other CEE countries. Land reform was in *Russia* designed in a way that resulted in little impact on the farm structures.³¹⁹ Thus, the farm structures have not changed significantly since the breakup of the Soviet Union and large farms, now owned by the rural population in form of land shares, still dominate. Land use fragmentation remains low. In *Ukraine*, the state land was distributed first in land shares and from 2000 in physical parcels. The result has been land fragmentation of ownership in a low-medium level. The *land code* from 2001 opened for some land transactions but with a moratorium on selling and buying of agricultural land until 2008. The moratorium has been extended a number of times since. As in *Russia*, the farm structures are still dominated by large corporate farms and land use fragmentation is a small problem. Finally, in *Moldova*, where agricultural land was distributed in physical parcels, high fragmentation of ownership has been the outcome of land reform. Farm structures after land reform are dualistic with many small family farms and relatively few large corporate farms. Land use fragmentation has occurred in a medium-high level compared with the other study countries.

All three *Trans-Caucasus countries* distributed in physical parcels most of the state agricultural land to rural families free of charges as the main land reform approach. The result has been excessive fragmentation of ownership with average sizes of agricultural holdings between 0.9 and 1.6 ha and distributed in a number of parcels. Also the land use is highly fragmented with farm structures mainly dominated by small-scale family farms.

6.6 CONCLUSIONS

The analysis in section 6.5 leads to the following conclusions. The level of ownership fragmentation and land use fragmentation, respectively, in the 25 study countries after land reform is assessed on a scale ranking the fragmentation in the countries in three categories, low, medium and high. The current level of fragmentation in the CEE countries is summarized in figure 6.5.

The ownership of agricultural land has as a result of the recent land reforms become medium or highly fragmented in all CEE countries except in *Belarus*,

³¹⁹ Wegren, S. (2008): *The Limits of Land Reform in Russia*. Problems in Post-Communism. Vol. 55, no. 2, p. 14-24.

Ukraine and Russia. In *Poland* and in the seven countries in *former Yugoslavia*, ownership of agricultural land is highly fragmented, but this is due to the pre-WWII farm structures and not the outcome of recent land reforms. Even though the fragmentation of land use is low in countries such as the *Czech Republic* and *Slovakia*, the excessive fragmentation of land ownership may be a problem to the landowners as they are often in a situation of monopsony with only one lessee and one potential buyer, the dominating local corporate farm. As a result, the land market is weak and not functioning well.

Region	Country	Level of fragmentation of ownership in agricultural land	Level of fragmentation of land use in agricultural land
Baltic countries	Estonia	Medium	Medium
	Latvia	Medium	Medium
	Lithuania	Medium	Medium
Central European countries	Czech Republic	High	Low
	Slovakia	High	Low
	Hungary	High	Medium
	Poland	Medium-high	Medium-high
	Eastern Germany	Medium	Low-medium
Balkan countries except former Yugoslavia	Albania	High	High
	Romania	High	High
	Bulgaria	High	High
Former Yugoslavia countries	Slovenia	High	High
	Croatia	High	High
	Serbia	High	High
	Bosnia-Herzegovina	High	High
	Montenegro	High	High
	Macedonia	High	High
	Kosovo	High	High
Western CIS countries	Moldova	High	Medium-high
	Ukraine	Low-medium	Low
	Russian Federation	Low	Low
	Belarus	Low	Low
Trans Caucasus countries	Armenia	High	High
	Georgia	High	High
	Azerbaijan	High	High

Figure 6.5: Current level of ownership and land use fragmentation in the 25 study countries

When it comes to land use fragmentation, the situation is much more nuanced. In all seven countries which distributed agricultural land in physical parcels as a main land reform approach, the result has been excessive land use fragmentation. In these countries there is a big overlap between ownership of agricultural land and land use as most of the land is farmed by the owners in small-scale family farms and leasing of land is not very common. It is characteristic, in these

countries, that the rural population has few other employment opportunities than farming their own land.

A high level of land use fragmentation is not characteristic in countries where restitution and withdrawal from collective farms were the main land reform approaches. There are, however, exceptions. Land reforms have in *Romania* and *Bulgaria* resulted in land use fragmentation as excessive as where land was distributed in physical parcels. In these two countries, the rural population often also has few alternatives to farming as a way of living. In Central European countries such as the *Czech Republic* and *Slovakia*, the owners, who got back the family land after restitution or withdrawal from the collective farms, often have found employment outside the agricultural sector. Hence, there is little overlap between ownership and land use.

Privatization of state land through sale has had only little impact on the level of fragmentation. Often, only a small percentage of the total agricultural land was subject to privatization through sale. In *Poland* and *Eastern Germany*, the privatization of state agricultural land through sale has been part of an active land policy to support the development of commercial family farms by giving them priority for purchase of state land.

It has been the aim of the article to provide the answers to the research questions: *(i) what is the linkage between chosen land reform approach and the outcome in form of farm structure and land fragmentation and (ii) in which situations land fragmentation becomes a barrier for the development of rural land market and the agricultural and rural sector in general?*

As explained, there are significant tendencies but not a completely clear coherence between the choice of land reform approach in the CEE countries and the level of land fragmentation two decades after the launch of land reforms. However, the seven countries where the choice was to distribute state agricultural land to the rural population in physical parcels have all today farm structures plagued by excessive fragmentation both of land ownership and of land use. In the countries where land was restituted to the former owners, the situation with land use fragmentation is more blurry. In countries where the rural population has few alternatives to farming, such as *Romania* and *Bulgaria*, the land use is fragmented in the same way as in the countries where state land was distributed in physical parcels.

The second part of the research question can be answered as well. When discussing the practical impact from land fragmentation on the utilization of agricultural land in the 25 study countries, the study reveals that it is important to distinguish between fragmentation of ownership and fragmentation of land use. Even in situations with extreme fragmentation of ownership of agricultural land, such as in the *Czech Republic* and *Slovakia*, land fragmentation has limited

practical impact on the utilization of agricultural land when the land use fragmentation is low.

As it was discussed in section 6.4, McPherson identified the main reasons why land fragmentation is detrimental in agriculture; i) it hinders the modernization of agriculture, especially the increased use of mechanization and the rational development of irrigation and other agricultural infrastructure, and ii) it generates a variety of economic inefficiencies through the waste of factors of production such as labour, time, fuel etc.³²⁰ In the 15 of the 25 CEE countries with a high level of both ownership and land use fragmentation, the farm structures are dominated by small subsistence or semi-commercial family farms restrained by fragmentation together with other constraints in an inefficient and costly production pattern. As argued by Van Dijk, *fragmentation is not a matter of black or white, but a grey area of increasingly limiting operational disadvantages*.³²¹ The agricultural sectors in these countries are suffering from many development constraints including the fragmentation issue. Farm structures have emerged which are incompatible with modern agricultural practice.³²² Under these conditions, land fragmentation is a barrier for the development of the agricultural and rural sector. This will also often be the case in situations with a medium level of ownership and land use fragmentation.

It has not been a specific objective to study land market development in the CEE countries. However, the Czech and Slovak cases show how excessive fragmentation of ownership is hampering the development of both the sales and lease market. The restituted owners are, as discussed, often left in a situation of monopsony with no alternatives to continue to lease out the land to the corporate farm which succeeded the cooperative in the village.

Evidence from *Moldova* shows how excessive land fragmentation is hampering the development of rural sales land markets. Parcels, especially in orchards and vineyards, have through the land reform process become so small and fragmented, due to the aim of equal distribution among the rural families that the land market is not functioning. Transaction costs exceed the value of the land which is then reduced to almost nothing because of the level of fragmentation.³²³

³²⁰ McPherson, M. (1982): *Land Fragmentation: A Selected Literature Review*. Development Discussion Paper No. 141. Harvard Institute for International Development, Harvard University, p. 9-10.

³²¹ Van Dijk, T. (2003b): *Dealing with Central European land fragmentation: A critical assessment of the use of Western European Instruments*. Eburon Delft, p. 22.

³²² Dale, P. and Baldwin, R. (2000): *Lessons Learnt from Emerging Land Markets in Central and Eastern Europe*. Conference Paper from FIG Working Week, Prague, p. 21.

³²³ Hartvigsen, M., Gorgan, M., Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012.

We can conclude on the impact of land fragmentation on land market development and on agricultural and rural development in general that land fragmentation is often hampering land market development and agricultural and rural development when both the ownership and the use of agricultural land is highly fragmented.

Fragmentation of ownership \ Fragmentation of land use	High	Low
High	Often high limiting impact on agricultural and rural development as well as on land market development	Not applicable (none of the CEE countries have low level of ownership fragmentation and high level of land use fragmentation)
Low	Land fragmentation will often have low impact on agricultural and rural development but can have medium-high impact on land market development	Land fragmentation has little impact on land market development and on agricultural and rural development

Figure 6.6: Impact from land fragmentation on agricultural and land market development.

The impact of land fragmentation is illustrated in figure 6.6.

The study shows that in the CEE countries, where both ownership of agricultural land and the land use is highly fragmented, it can be well justified to address the land fragmentation problems through a wide range of instruments from incentives to support development of rural land markets to public programmes for land consolidation and land banking. Such programmes can, however, not stand alone and must be seen in an integrated local development approach which also includes other instruments than the re-allotment of parcels.

6.7 PERSPECTIVES

Finally, the study of land reform and its outcome in the CEE countries can provide additional insights to improve policy advice to governments and donors for future land reform and land privatization initiatives in the CEE countries and the Central Asian countries of the former Soviet Union. Hence, we can now address the question: *how should the land reform approach be designed if the objective is to dismantle the large-scale corporate farms and build individual commercial farms without creating excessive land fragmentation?*

We have seen that physical distribution of state owned agricultural land to the rural population is an effective way of dismantling the large-scale corporate farms. We have, however, also seen that this has led to excessive fragmentation of both ownership and land use. Based on the results of the study the recommendation would be to design the land reform with a combination of distribution in physical parcels and compensation in state vouchers, bonds or money. Before land distribution plans are prepared, each eligible person should have the right to decide whether to receive land in physical parcels or compensation. Those who have no interest in or skills for farming could choose compensation. The level of compensation should reflect the market value of the land which is the alternative to compensation. Those who on the other side have an interest in farming and in building up commercial family farms would have the opportunity to purchase additional land already while the land distribution plan is being prepared. The system will be financially neutral to the state if the buyers of additional land pay the same market price as given in compensation to those who decline land. If there will be more supply of additional land than demand, a state land bank can temporarily take over the land and lease it out until the land market has developed.

Such procedure could be opposed to the situation where the state is first fragmenting the land through distribution in physical parcels and subsequently seeking to reduce fragmentation by introducing land consolidation policies and programmes. In this way, a voluntary land consolidation approach can be integrated into the land reform and land privatization process. Agreements of selling and buying of land rights before they are distributed in physical parcels can be facilitated as part of the local land reform process. The funds saved on registration costs could be better spent on facilitating a land consolidation process integrated into the privatization process. This could be a short-cut to building up farm structures dominated by commercial family farms as it is the case in most Western European countries. The process can be further supported by government policies which in an integrated way address the local development needs and constraints.

REFERENCES

- ACE Project (1999): *The Development of Land Markets in Central and Eastern Europe – Final Report*.
- Bentley, J.W. (1987): *Economic and Ecological Approaches to Land Fragmentation: In Defense of A Much-Maligned Phenomenon*. Annual Review of Anthropology, Vol. 16, 31-67.
- Binns, B. (1950): *The Consolidation of Fragmented Agricultural Holdings*. FAO.
- Bloch, P. (1998): *Picking up the pieces – consolidation of Albania's radical land reform*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*. Routledge.

- Csaki, C. and Lerman, Z. (1998): *Land reform and farm restructuring in Hungary during the 1990s*. In Wegren, S. (edit.): *Land Reform in the Former Soviet Union and Eastern Europe*. Routledge.
- Dale, P. and Baldwin, R. (2000): *Lessons Learnt from Emerging Land Markets in Central and Eastern Europe*. Conference Paper from FIG Working Week, Prague.
- Daugaliene, V. (2004): *Preparation for Land Consolidation in Lithuania*. In Modern Land Consolidation - Proceedings of a Symposium held by FIG Commission 7 on 10 and 11 September 2004 in Volvic, France. FIG.
- Demetriou, D., Stillwell, J., See, L., 2013. *A new methodology for measuring land fragmentation*. Computers, Environment and Urban Systems 39, 71-80.
- Giovarelli, R. and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. RDI. FAO.
- Hartvigsen, M., Gorgan, M., Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012. Web link: <http://www.fao.org/nr/tenure/land-tenure-journal/index.php/LTJ/article/view/59>
- Hartvigsen, M. (2013): *Land Reform in Central and Eastern Europe after 1989 and its Outcome in Form of Farm Structures and Land Fragmentation*. FAO Land Tenure Working Paper 24. Web link: <http://www.fao.org/docrep/017/aq097e/aq097e.pdf>
- King, R. and Burton, S. (1982): *Land fragmentation: notes on a fundamental rural spatial problem*. Progress in Human Geography 6(4): 475-494.
- Lerman, Z., Csaki, C., Feder, G. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books.
- McPherson, M. (1982): *Land Fragmentation: A Selected Literature Review*. Development Discussion Paper No. 141. Harvard Institute for International Development, Harvard University.
- OSCE & UNMIK (2008): *Privatization in Kosovo: Juridical Review of Kosovo Trust Agency Matters by the Special Chamber of the Supreme Court of Kosovo*.
- Rembold, F. (2003): *Land fragmentation and its impact in Central and Eastern European countries and the Commonwealth of Independent States*. Land Reform nr. 1/2003. FAO.
- Rusu, M., Florian, V., Popa, M., Marin, P., Pamfil, V. (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from Romania*. FAO.
- Sabates-Wheeler, R. (2002): *Consolidation initiatives after land reform: Responses to multiple dimensions of land fragmentation in Eastern European agriculture*. Journal of International Development nr. 14, 1005-1018.
- Sedik, D. and Lerman, Z. (2008): *Land Reform, Transition, and rural Development*. Development & Transition no. 11 / December 2008. UNDP and London School of Economics and Political Science.

- Swinnen, J., Buckwell, A., Mathijs, E. (edt.) (1997): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd., Aldershot.
- Swinnen, J. and Mathijs, E. (1997): *Agricultural privatization, land reform and farm restructuring in Central and Eastern Europe – A comparative analysis*. In Swinnen, J. et al (edt.): *Agricultural Privatisation. Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd., Aldershot.
- Swinnen, J. and Vranken, L. (2009): *Land and EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agritultural Real Estate*. Centre for European Policy Studies (CEPS). Brussels.
- Van Dijk, T. (2003a): *Scenarios of Central European land fragmentation*. Land Use Policy 20 (2003), 149-158.
- Van Dijk, T. (2003b): *Dealing with Central European land fragmentation: A critical assessment of the use of Western European Instruments*. Eburon Delft.
- Vranken, L., Macours, K., Noev, N., Swinnen, J. (2011): *Property rights imperfections and asset allocation: Co-ownership in Bulgaria*. Journal of Comparative Economics 39.
- Wegren, S. (edt.) (1998): *Land Reform in the Former Soviet Union and Eastern Europe*. Routledge.
- Wegren, S. (2008): *The Limits of Land Reform in Russia*. Problems in Post-Communism. Vol. 55, no. 2.
- Zadura, A., Zawadska, M., Struziak, A. (2008): *Land Bank and Land Consolidation (Polish case)*. Workshop paper for FAO land consolidation and land banking workshop in Prague, June 2008.

PART 3

Land consolidation and land banking

Part 3 reviews the introduction of land management instruments such as land consolidation and land banking introduced in the 25 study countries mainly to address the structural problems in agriculture with land fragmentation and small agricultural holding and farm sizes.

In **Chapter 7**, the introduction of land consolidation and land banking instruments in the CEE countries after 1989 is reviewed and analyzed in a comprehensive and systematic way and a full and updated overview is for the first time provided. The study countries are segregated into three groups; i) those with ongoing land consolidation programmes, ii) those where land consolidation instruments have been introduced but not yet with an operational programme and iii) those with little or no experience with land consolidation. The chapter is technically cleared and published by FAO as Land Tenure Working Paper 26.

Chapter 8 explores the problems and possible solutions related to low land mobility in a Central and Eastern European land consolidation context. First, the limited theory on land mobility available is reviewed. Second, land mobility is studied in three country cases (Moldova, Albania and Bosnia and Herzegovina). Finally, the available tools to increase land mobility are discussed. The chapter is a peer-reviewed paper published in *Nordic Journal of Surveying and Real Estate Research*, Volume 10, Number 1, 2014.

CHAPTER 7

7 *EXPERIENCES WITH LAND CONSOLIDATION AND LAND BANKING IN CENTRAL AND EASTERN EUROPE AFTER 1989*

Paper published as

FAO Land Tenure Working Paper 26

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List of Abbreviations

CEE	Central and Eastern Europe
CIS	Commonwealth of Independent States
DLG	Dienst Landelijk Gebied (The Netherlands)
EIA	Environmental Impact Assessment
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDR	German Democratic Republic
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (Germany)
RDP	Rural Development Programme
UAA	Utilized Agricultural Area

7.1 INTRODUCTION

The ongoing introduction of land consolidation and land banking instruments in the countries in Central and Eastern Europe is sometimes described as a second wave of land reform where the first wave is understood as the privatization of collective and state farms after 1989.^{324 325} But, in fact, for most of the countries these are the fourth or fifth land reforms that have occurred over the last century. From this perspective, the first land reforms were often carried out between the World Wars and often with the objective of supporting the development of family farms. Immediately after the Second World War, many countries implemented land reforms where land was confiscated from German owners and collaborators during the war, as well as from large estates, and was distributed to the landless rural population and to small family farms. From the early 1950s, the collectivization process began in most of the countries, which can be seen as the third land reform, and the land reforms that began in 1989 are thus the fourth wave for many countries. In the last century, the countries of Central and Eastern Europe have been through remarkable waves of transition and changes in living conditions that are difficult to understand today, but which are important to bear in mind when addressing the topic of land management instruments for agricultural and rural development, such as land consolidation and land banking.

Some 25 years have passed since the Berlin Wall fell in 1989. Most countries of the region have since gone through substantial land reform processes as a central element in the transition from a centrally-planned economy towards a market economy. During the 1990s, most countries conducted land reforms to privatize state and collective farms and, in parallel, to build land administration systems. The countries applied a variety of land reform approaches with the main methods being the restitution of ownership to former owners and the distribution of agricultural land in either physical parcels or land shares to the rural population.³²⁶

In some countries, land reforms after 1989 have completely changed the farm structures that existed during the socialist era while in other countries the farm

³²⁴ Van Holst, F., Eberlin, R. and Onega Lopez, F. (2014): *LANDNET and land market issues in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2014, p. 184.

³²⁵ Palmer, D., Munro-Faure, P. and Rembold, F. (2004): *Land consolidation and rural development in Central and Eastern Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 2/2004, p. 133.

³²⁶ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24.

structures remain basically the same. As a result of the recent land reforms the ownership of agricultural land has become fragmented to a medium or high extent in all the countries except for Belarus, Ukraine and the Russian Federation. In Poland and the ex-Yugoslavia, ownership of agricultural land is highly fragmented but this is due to the continued existence of farm structures that existed prior to the Second World War and generally it is not the outcome of recent land reforms. With regard to land use fragmentation, the situation is much more nuanced. In the seven countries (i.e. Albania, Armenia, Azerbaijan, Georgia, Hungary, Moldova and Ukraine) that distributed agricultural land in physical parcels as the main land reform approach, the result has been excessive land use fragmentation: there is a large overlap between the ownership of agricultural land and land use as most land is farmed by the owners in small-scale family farms and leasing of land is not common.³²⁷ A high level of land use fragmentation is not characteristic in the countries where restitution was the main land reform approach. However, there are exceptions such as Romania and Bulgaria. Currently, in many countries high levels of fragmentation of both landownership and land use have occurred.³²⁸

Governments have mostly recognized the need to address the structural problems in agriculture of land fragmentation and small farm sizes. Land management instruments such as land consolidation and land banking have been introduced. Some countries, mainly among those that became members of the European Union in 2004, have already had ongoing national land consolidation programmes for several years. In a second category, land consolidation activities have been introduced, often with international technical assistance through donor-funded projects, but operational land consolidation programmes have not yet been established. Finally, a third category of countries has so far had little or no experience with land consolidation and land banking. Few comparative papers exist on the introduction of land consolidation and land banking instruments in the region during the last quarter of a century (e.g. Van Dijk, 2003³²⁹; Thomas, 2006³³⁰; Hartvigsen 2006³³¹).

This paper reports the outcome of a recent study by the author and it systematically reviews and analyses the experiences of introducing land consolidation and land banking instruments in Central and Eastern Europe (see figure 7.1).

³²⁷ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 334.

³²⁸ *Ibid.*, p. 339.

³²⁹ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon.

³³⁰ Thomas, J. (2006): *Attempt on systematization of land consolidation approaches in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2006.

³³¹ Hartvigsen, M. (2006): *Land consolidation in Central and Eastern European countries*. Conference paper for FIG Congress, Munich 2006.

This paper thus provides a basis for answering research questions such as: *What have been the driving factors behind the introduction of land consolidation and land banking in Central and Eastern Europe? What have been the key approaches and elements in the land consolidation and land banking instruments introduced in the region? What are the experiences and results with the introduction of land consolidation and land banking in the region in relation to the improvement of agricultural structures and the facilitation of rural development?*



Figure 7.1: The coverage of the study in Central and Eastern Europe.

Section 7.2 describes the methodology employed in the study. In section 7.3, the terminology is clarified and the Western European traditions with land consolidation and land banking are briefly explained as a reference for the subsequent analysis of the experiences of Central and Eastern Europe in sections

7.4-7.6. In addition, section 7.3 deals with the policy recommendations provided by international organizations, mainly FAO, in the field of land consolidation and land banking. The countries of Central and Eastern Europe that already operate ongoing land consolidation programmes are analysed in section 7.4, while section 7.5 deals with the cases where land consolidation has been introduced with international technical assistance but where land consolidation programmes have not yet been established. Section 7.6 addresses the countries with little or no experience with land consolidation. Section 7.7 is about the regional dissemination of knowledge on land consolidation and land banking initiated during the last 10-15 years, mainly by FAO and LANDNET. Section 7.8 discusses the critique expressed by a group of academics of state-led land consolidation programmes in Central and Eastern Europe. Finally, section 7.9 provides the conclusions of the study.

In other words, this paper is for some countries the story of the development from the first small pilot towards a national programme. This is a development that is seldom fast and straightforward but instead may have many detours as political majorities and priorities shift along the way.

7.2 METHODOLOGY

The introduction of land consolidation and land banking instruments in Central and Eastern Europe after the beginning of the transition from 1989 and onwards has not been analysed before in a comparative and comprehensive way that includes the entire region (see figure 7.1).

This paper divides the region into three categories: i) where there are ongoing land consolidation programmes; ii) where land consolidation has been introduced but there are not yet programmes; and iii) where there is little or no experience with land consolidation (see table 7.1).

There is no clear definition of what should be in place before it can be said that there is an ongoing land consolidation programme. Here, it is important to distinguish between a programme and project. In this paper, the minimum requirements for having a national land consolidation programme are understood as the following five points:

1. Land consolidation, as a land management instrument, is embedded in the overall land policy of the country.
2. A legal framework for land consolidation has been adopted (usually in the form of legal provisions and detailed regulations).

3. A lead public agency for land consolidation has been established and delegated to manage and run the national land consolidation programme.
4. Secure funding on an annual basis allows the lead agency to plan activities for at least two to three years ahead.
5. Technical and administrative capacity has been developed to implement land consolidation projects in the field and to manage the programme.

Ongoing land consolidation programmes	Introduction of land consolidation but not yet a programme	Little or no land consolidation experience
Poland Czech Republic Slovakia Eastern Germany Slovenia Lithuania	Estonia Latvia Hungary Romania Bulgaria Serbia Croatia FYR of Macedonia Kosovo Bosnia and Herzegovina Albania Moldova Armenia	Montenegro Georgia Azerbaijan Russian Federation Ukraine Belarus

Table 7.1: Initial categorization of Central and Eastern Europe according to the experience with land consolidation.

In this paper, a national land consolidation programme is considered to be in place only when all five requirements are met. These requirements are used in the analysis in sections 7.4-7.6.

The work process of the study is illustrated in figure 7.2. In the first stage, desk studies of all available documents for the region were conducted. These include a variety of different documents, such as peer-reviewed journal papers, conference papers and presentations, project reports, government programmes as well as programme and project evaluations. An important source of information is the proceedings of the 15 regional FAO and LANDNET workshops on land

consolidation, land banking and improved land management that have been held during 2002-2014, the most recent being in Belgrade in June 2014.³³²

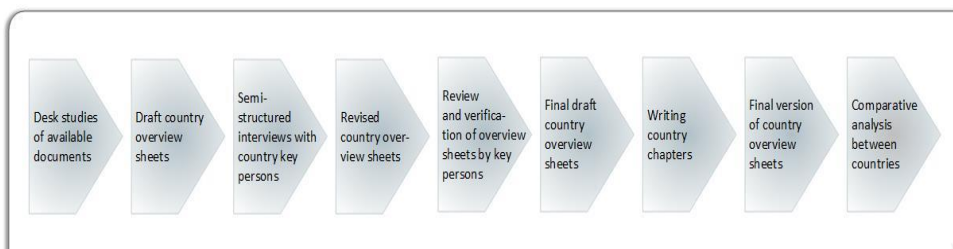


Figure 7.2: Work process of the study

The level of written documentation on the introduction of land consolidation and land banking varies considerably, with much information being available from countries such as Poland and Lithuania and little information available in English for Eastern Germany and the Czech Republic. For obvious reasons, very little information exists for the countries that have little or no experience with land consolidation and land banking instruments.

In a second stage of the research, a draft land consolidation overview sheet was prepared for each country based on the initial desk studies. In this process, the author drew extensively on his working experience from participating in projects and workshops in the region.³³³ The intention of preparing the overview sheets was to collect similar and consistent information to allow for a comparative analysis of the three categories, i.e. ongoing land consolidation programmes; introduction of land consolidation but not yet programmes; and little or no experience. As an example, the land consolidation overview sheet for Lithuania is included as annex 7.1.

In the third stage of the study, two to four key persons with special insight and experience with the topics studied were identified in each country. The selection of key persons was highly dependent on the stage of introduction of land consolidation and land banking as well as on the local organization of programmes and preparatory works. One of the key persons was often a senior official from the Ministry of Agriculture or similar central state institution either currently responsible for the ongoing land consolidation programme or from an institution

³³² Proceedings from all FAO and Landnet regional workshops are available at: <http://www.fao.org/europe/activities/land-tenure/landconsee/en/>

³³³ The author has participated in technical assistance projects on land consolidation, land management and rural development in Lithuania, Armenia, Moldova, Hungary, Croatia, Albania, Bulgaria, Bosnia and Herzegovina, the FYR of Macedonia and Kosovo, and participated in most of the FAO – LANDNET workshops.

expected to be responsible for a programme in the future. Another group of key persons were project managers and lead consultants involved in technical assistance projects. Finally, representatives from academia with an interest in the research topics were selected as key persons.

To the extent possible, semi-structured qualitative research interviews were conducted with the key persons using the draft overview sheets as interview guidelines.³³⁴ All the interviewees are, in one way or another, experts on the research topics. The interviewer was knowledgeable about the topics of concern and had mastered the technical language and it was thus feasible for the interviewer to challenge the statements of the interviewees with provocations, possibly leading to new insights.³³⁵ Naturally, the selection of only two to four key persons from each of the localities of interest in the region represents a source of error and the interviewees may have personal or institutional interests that affect how they answer the questions. The main objective of conducting the interviews was to verify the information in the draft overview sheets that had been prepared following the desk studies of available documents, and to close the gaps where no written information was available in English. Also, the interviews were particularly important for obtaining information on the most recent developments, which is often not documented in writing. In total, 29 interviews with 41 key persons were carried out between January and October 2014 using different interview techniques.³³⁶ Interviews were mainly conducted as either face-to-face interviews or using Skype with video, and a few interviews were held by telephone when Skype was not technically possible or as a series of emails with questions and answers. At the initial stage of the interviews, the interviewer set the interview stage by introducing the purpose of the interview and briefing the interviewee on the research for which the interview was a part.³³⁷

All interviews were recorded. The list of key persons and interviews is included in annex 7.2. After each interview, a summary of the interview was prepared based on the recording. After the interviews, the relevant draft land consolidation overview sheet was revised and sent to the interviewees and other key persons for review and validation where needed. Where necessary, the face-to-face and Skype interviews were supplemented by follow-up questions using emails. In total more than 550 emails were exchanged with the key persons during the study. After interviews and review by the key persons, final versions of the land consolidation

³³⁴ Kvale, S. and Brinkmann, S. (2009): *Interviews – Learning the craft of qualitative research interviewing*, p. 130-134.

³³⁵ *Ibid.*, p. 147.

³³⁶ Opdenakker, R. (2006): *Advantages and disadvantages of four interview techniques in qualitative research*. FQS – Forum: Qualitative Social Research, Vol. 7, No. 4, Art. 11, September 2006.

³³⁷ Kvale, S. and Brinkmann, S. (2009): *Interviews – Learning the craft of qualitative research interviewing*, p. 128-130.

overview sheets were prepared and they served as the basis for writing this paper. Finally, the overview sheets and the sections on the implementation of land consolidation have been the basis for the comparative analysis. Each step on the working process illustrated in figure 7.2 has been validated.

The aim of the study, as mentioned, has been to provide a comparison on the implementation of land consolidation and an overview of the “big picture”. It has not been to describe and analyse the land consolidation and land banking instruments and their implementation in detail.

Discussion of land consolidation and land banking instruments, both in Central and Eastern Europe and in general, easily leads to a discussion of closely-related issues including land administration, land market development and rural development. These and other similar issues are included in the analysis and discussions but only from the perspectives of land consolidation and land banking. Finally, it has not been within the scope of the overall study and this paper to evaluate the impact of land consolidation and land banking efforts in Central and Eastern Europe in terms of increased productivity and competitiveness of participating agricultural holdings and farms.

7.3 INSTRUMENTS TO ADDRESS LAND FRAGMENTATION AND ENLARGE AGRICULTURAL HOLDINGS

In this section, the central terminology is discussed before the analysis in subsequent sections of the experiences with land consolidation and land banking in Central and Eastern Europe. Second, the land consolidation traditions and approaches in three Western European countries (the Netherlands, Germany and Denmark) are briefly presented. These three countries are chosen partly because they represent the most common models of land consolidation and their variety that have been applied throughout Western Europe, and partly because most donor-funded projects that provided technical assistance on land consolidation and related issues to Central and Eastern Europe within the last 20 years have employed land consolidation experts from these three countries. Hence, the country descriptions are used subsequently as a reference for the analysis of the land consolidation and land banking experiences in Central and Eastern Europe. Third, the policy recommendations provided by international organizations, mainly FAO, in the field of land consolidation and land banking are described in order to serve also as a reference for the analysis of the experiences in Central and Eastern Europe.

7.3.1 DEFINITIONS AND TERMINOLOGY

The first central term is **land reform**, which can be seen as an umbrella for the terms discussed below. Land reform is a term that is interpreted in a variety of ways depending on the context within which it is applied.³³⁸ Land reform can lead to restoring land rights, creating new rights or redistributing existing rights, including through land consolidation.

Various approaches to land consolidation are applied throughout Europe and the term **land consolidation** is often used to describe different traditions and procedures without adequate definitions.³³⁹ As a consequence, a commonly accepted definition of land consolidation does not exist. Both among experts and decision-makers there is a natural tendency to understand the term in the way it is used in their own countries. At one end of the scale, the term covers comprehensive land consolidation, as in Germany where land consolidation is a central part of fully integrated compulsory large-scale infrastructure and rural development projects. At the other end of the scale, land consolidation is often used in countries of the former Soviet Union as being synonymous for the amalgamation of adjacent parcels in normal bilateral land market transactions.

In this paper, land consolidation is understood in general as it has been described by FAO:

*Land consolidation is a term used broadly to describe measures to adjust the structure of property rights through co-ordination between owners and users. Land consolidation involves the reallocation of parcels to remove the effects of fragmentation but the term goes well beyond these actions. Land consolidation has been associated with broad economic and social reforms from the time of its earliest applications.*³⁴⁰

Land consolidation is more than the outcome of normal land market transactions agreed between a few private landowners. Land consolidation is carried out through a project and connected with a certain geographical area (i.e. the project area) in which the project is conducted. The outcome of land consolidation is the result of a planning process facilitated by land professionals and with the active involvement of the landowners and other stakeholders in the project area. The outcome of the planning process is the re-allotment plan displaying the new layout of land parcels and connected ownership after the land consolidation project. In

³³⁸ UNECE (2005): *Land Administration in the UNECE Region – Development trends and main principles*, p. 5.

³³⁹ Hartvigsen, M. (2014a): *Land mobility in a Central and Eastern European land consolidation context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014, p. 26.

³⁴⁰ FAO (2004a): *Operations manual for land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Manuals no. 1, p. 1.

the literature, this understanding of the term “land consolidation” is sometimes also described as “formal land consolidation”, as opposed to “informal land consolidation” which describes arrangements from the coordination of the use of contiguous parcels either through informal leasing or exchange agreements or through formal voluntary land transactions between a small group of landowners (i.e. normal land market transactions).³⁴¹ Also the term “state-led land consolidation” is sometimes used in the literature for land consolidation projects implemented under national land consolidation programmes (see section 7.8).

The term **land mobility** is central for the outcome and success of land consolidation in a voluntary approach but also for compulsory projects where land is taken out of production for public needs. The term has been defined as “the coordinated extent of re-structuring of land rights through sale, purchase, exchange or lease from one owner to another, as it proves possible during the re-allotment process”.³⁴²

In addition, the term **land banking** is used with different understandings in different European countries and is often synonymous with the term “land fund”. In Galicia in Spain, the land bank (i.e. BanTeGal) facilitates lease agreements between landowners and farmers.³⁴³ In Denmark, the state land bank under the Ministry of Food, Agriculture and Fisheries supports the implementation of land consolidation projects through a voluntary approach by first purchasing agricultural land from private owners who are willing to sell under normal market conditions before starting a land consolidation project, and second by holding the land temporarily and often exchanging it with landowners in the land consolidation project who are asked to sell land for a nature restoration project. The main objective is thus to increase land mobility and make the implementation of the land consolidation project easier and to ensure better results.

In this paper, the term **land bank** is understood as in the Dutch, German and Danish cases (see section 7.3.2) as an often state / public institution with the delegated mandate to purchase land in rural areas from private owners, hold it temporarily and sell it again, often in land consolidation projects in order to fulfil its objectives. Thus, land banking is a tool to increase land mobility and ensure a better outcome of land consolidation projects. For the paper, a **land fund** is understood as the institutional and organizational framework for the regular management of state- or publicly-owned agricultural land.

³⁴¹ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. P. 58-60.

³⁴² Hartvigsen, M. (2014a): *Land mobility in a Central and Eastern European land consolidation context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014, p. 26.

³⁴³ Onega Lopez, F. (2009): *The Land Bank of Galicia*. Powerpoint presentation from workshop on land tenure and land consolidation in Santiago de Compostela, Galicia, Spain.

7.3.2 LAND CONSOLIDATION AND LAND BANKING IN WESTERN EUROPE

Most Western European countries have a long-lasting land consolidation tradition. During the decades after the Second World War, land consolidation instruments were important elements in state policies to support agricultural development through the reduction of land fragmentation and the facilitation of the enlargement of productive farms. At the same time, land consolidation was used in connection with large state-supported land reclamation and drainage projects, which also had the objective of agricultural development. From the 1980s, the objectives have gradually shifted in most countries to those of a tool for implementation of publicly-initiated projects (such as on nature restoration, environment, flood protection and infrastructure) and, in some countries, to support comprehensive and integrated rural development projects.

In this section, the land consolidation traditions and approaches in the three Western European countries, the Netherlands, Germany and Denmark, are briefly presented in order to provide a reference for the analysis of the introduction of land consolidation and land banking in Central and Eastern Europe in sections 7.4-7.6.

The Dutch land consolidation tradition

The first land consolidation law entered into force in the Netherlands in 1924. Since then, more than 500 land consolidation projects, including almost 1.4 million ha, have been implemented.³⁴⁴ In addition, some hundreds of thousands of hectares have been consolidated through voluntary land exchange projects. Since the amendment of the legal framework in 1985, the broader term “land development” has been used to describe land consolidation in an integrated rural development approach. In 2007, a new land consolidation law was adopted which has resulted in substantial changes in procedures and the distribution of responsibilities.

After the Second World War, the interest for land consolidation and the number of projects increased. At the time, the main objective of the projects was local agricultural development through the re-allotment of parcels and the improvement of rural infrastructure, such as new or improved rural roads and watercourses. Also, land consolidation was an integrated element in the large-scale land reclamation projects of the polder areas. Land consolidation is implemented using two main approaches: compulsory land consolidation and voluntary land exchange.

³⁴⁴ Leenen, H. (2014): *Land development in the Netherlands*. *ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement* 3/2014.

In the compulsory projects implemented according to the Land Development Law, the land consolidation plan (i.e. re-allotment plan) originally needed the approval of the majority of landowners in the project area and with the majority of the land area as well, thus resulting in the possibility of a minority of landowners being forced to participate in the project. Now the decision of approval is up to the provincial parliaments. Land development starts with the drafting of a land development plan that includes all measures and facilities to be implemented in the project area. A land consolidation commission, appointed by the provincial government and representing all stakeholder groups, is responsible for the implementation of the development plan with support of the Cadastre, Land Registry and Mapping Agency (Kadaster) and the Government Service for Land and Water Management (DLG). The plan is approved by the provincial government after a participatory process involving all stakeholder groups and with an appeals procedure. During the 1970s and the beginning of the 1980s, traditional land consolidation projects with the objective of agricultural development faced resistance from both farmers and environmental organizations.³⁴⁵ As a consequence of the lengthy re-allotment process and many appeals, the duration of the projects was often more than 10 years.

With the land development law in 1985, the objective changed from mainly agricultural development to multi-purpose objectives in an integrated planning and implementation approach. In principle, each participant in the re-allotment process (i.e. a landowner in the project area) has the right to receive land of the same type, quality and value as was brought into the project. When the re-allotment process is applied for implementation of nature restoration, landscape improvement or publicly-initiated changes in water management (e.g. for flood protection), the Bureau of Agricultural Land Management (BBL) has the function of a public land bank and purchases land from private owners on a voluntary basis; this land is then brought into the re-allotment process to compensate for the agricultural land taken out of production.

The voluntary land exchange in the Netherlands is based on private initiative and is legally defined as a process involving at least three landowners. During the 1960s and 1970s, in comparison to the volume of the compulsory land consolidation projects the voluntary land exchange projects were of little importance, with less than five percent of the land consolidated through this approach each year.³⁴⁶ However, this has changed and from the 1990s the

³⁴⁵ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. P. 102.

³⁴⁶ *Ibid.* P. 105-106.

voluntary approach of land exchange has become more popular than compulsory land consolidation.³⁴⁷

In 2007, the new land consolidation law resulted in the transfer of responsibility for land development from the central Government to the provincial governments. At the same time, the re-allotment process was simplified with the intention to speed up the process and reduce the duration of projects to three to four years in compulsory projects.³⁴⁸ Also the size of project areas was reduced from often 5,000 to 10,000 ha to a maximum of 1,500 to 2,000 ha. The law still provides for the right to use up to a maximum of five percent of the land of the participants for realizing public goals such as roads, waterways, nature, and recreation areas. Furthermore, the law gives the possibility for expropriation.

The latest development in the Dutch land consolidation tradition is a participatory re-allotment process developed by the Kadaster, DLG and the farmers' organizations. Landowners, farmers, other stakeholders and public institutions with an interest in land development in the project area are invited to participate in group discussions on the building up of the re-allotment plan by themselves.³⁴⁹ Together the stakeholders develop the re-allotment plan with the facilitation of land consolidation professionals. The new voluntary projects have a duration of 6-12 months. The project size ranges from 400-2,000 ha. The new approach is applied in both voluntary land exchange projects and compulsory land consolidation projects.

The German land consolidation tradition

The German land consolidation tradition is more than 150 years old.³⁵⁰ In Western Germany, modern land consolidation developed in the decades after the Second World War. In Eastern Germany, land consolidation was reintroduced after the German reunification in 1990. Land consolidation in Eastern Germany is addressed in section 7.4.5.

Since the 1970s, the focus of implementing land consolidation in Germany has shifted from a specific agricultural farm-focused instrument to an instrument that is likely to cover public demand in land and solve land use conflicts.³⁵¹ Over the

³⁴⁷ Leenen, H. (2014): *Land development in the Netherlands*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2014, p. 169.

³⁴⁸ Email from Jan van Rheenen in October 2014.

³⁴⁹ Louwsma, M. et al. (2014): *A new approach: Participatory land consolidation*. Paper presented at FIG Congress in Kuala Lumpur.

³⁵⁰ Thomas, J. (2004): *Modern land consolidation – recent trends on land consolidation in Germany*. Paper from FIG symposium on modern land consolidation, Volvic, France p. 5.

³⁵¹ Drees, A. and Sünderhauf, R. (2006): *Land consolidation as a tool for flood prevention*. Paper for FIG congress in Munich, p. 6 and Thomas, J. (2006). *Attempt on systematization*

last decades, objectives have shifted from agricultural development and infrastructure projects to nature protection, and land consolidation today is often used as a tool for integrated rural development where several aims are pursued at the same time.

Land consolidation activities are organized at the state (*Länder*) level with the Ministry of Agriculture being the main responsible authority. All German *Länder* have established a state Land Consolidation Authority which implements the projects and an Upper Land Consolidation Authority which is responsible for the approval of land consolidation projects and for coordinating land consolidation activities. Land consolidation is funded as measures under the Rural Development Programmes (RDP) at the *Länder* level. In 2002, around 7,000 land consolidation projects were under implementation in Germany, covering in total 3.1 million ha.³⁵²

Land consolidation in Germany is a tool where planning and implementation are closely connected to each other through, first, the preparation of a “Plan for Common and Public Facilities” and then the subsequent re-allotment of parcels in the project area.³⁵³

Land consolidation in Germany is regulated by the federal Land Consolidation Act. According to the law, five types (instruments) of land consolidation can be applied: i) Comprehensive land consolidation; ii) Voluntary land exchange; iii) Accelerated land consolidation; iv) Simplified land consolidation; and v) Land consolidation in case of permissible compulsory acquisition.³⁵⁴

Voluntary land exchange is the simplest and fastest instrument. The voluntary land exchange projects can be implemented with the participation of only two participants. In case of more than two applicants, the landowners use a “mediator” to facilitate the re-allotment planning. It is not usual to involve many landowners in voluntary land exchange projects but to work with the initiators only. The objectives for voluntary land exchange projects, according to the law, can be only i) improvement of the agricultural structure; and ii) nature protection issues in relatively small and simple projects. Where only a few farmers are affected by a

of land consolidation approaches in Europe. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2006, p. 156.

³⁵² Thomas, J. (2004): *Modern land consolidation – recent trends on land consolidation in Germany.* Paper from FIG symposium on modern land consolidation, Volvic, France p. 6.

³⁵³ Thomas, J. (2014): *Safeguarding real property rights and rational use by conflicting private and public interests – The German approach.* Geodetski Vestnik Vol. 58, No. 4/2014, p. 534.

³⁵⁴ Thomas, J. (2014): *Safeguarding real property rights and rational use by conflicting private and public interests – The German approach.* Geodetski Vestnik Vol. 58, No. 4/2014, p. 535.

nature project they are offered land in compensation of equal value through a voluntary land exchange project.

Comprehensive land consolidation is often a core element in planned, integrated rural development. In some parts of the project area, the scattered and poorly-shaped parcels are consolidated to improve agricultural production conditions. In other parts of the project area, a publicly-initiated change in land use is implemented, for example, in connection with nature restoration and flood protection projects or infrastructure projects. Land consolidation is implemented as an alternative to expropriation.³⁵⁵ Also the two types, simplified land consolidation and land consolidation in case of permissible compulsory acquisition are comprehensive instruments applied in an integrated planning process.

While the voluntary land exchange is naturally voluntary, the four other types of land consolidation are compulsory and implemented when a project is approved by the Upper Land Consolidation Authority.³⁵⁶ Germany has no specific threshold (i.e. percentage) for beginning and approving land consolidation projects. Land consolidation projects begin only after specific initiatives from farmers, nature authorities, NGOs or others and they must be in line with regional or local development strategies. When a project is approved by the Upper Land Consolidation Authority, participants may appeal against the re-allotment plan, which is then revised.

There is a large variation in the length of land consolidation projects in Germany depending on which type is applied and also on the objectives in the specific projects. Often delays are caused by appeals: some projects can take 10-15 years while others are implemented in only 2-4 years.

Land banking is applied by the land consolidation authorities in connection with land consolidation where land from private owners is purchased by the land consolidation authorities before the land consolidation project and is sold again in the project.

³⁵⁵ ARGE Landentwicklung. (2012): *Guidelines for rural development*. Prepared by Bund – Länder – Task Force for Sustainable Rural Development, p. p. 23.

³⁵⁶ Thomas, J. (2006): *Attempt on systematization of land consolidation approaches in Europe*. *ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement* 3/2006, p. 157.

The Danish land consolidation tradition

The Danish land consolidation tradition has its roots in the land reform launched in the 1780s.³⁵⁷ The first “modern” land consolidation law was adopted in 1924. Until 1990, land consolidation was used as an instrument for agricultural development (i.e. mainly through the reduction of land fragmentation and the increase in agricultural holding sizes but it was also used in connection with land reclamation projects). In 1990, the objective of implementing land consolidation was broadened and made multi-purpose. The preamble of the land consolidation law explicitly states that the objective is to contribute to both agricultural development and the implementation of nature and environmental projects, and in addition to provide land as compensation for agricultural holdings affected by such projects.

Participation in land consolidation projects is completely voluntary for the landowners and farmers in the project area. This, however, does not mean that landowners are not forced sometimes to give up land for public projects for nature restoration or infrastructure. In case the landowners refuse to participate in a voluntary land consolidation project implemented in connection with nature or infrastructure projects, they may end up having their land rights expropriated according to other legislation. Hence, land consolidation is an instrument to offer additional land in exchange to the landowners and farmers who need the area for their agricultural production as an alternative to compensation in money. The Danish land consolidation procedure today is basically the same as the system that was introduced in 1955. A committee of stakeholders, elected by the participants at the public launch meeting, plays an important role in the re-allotment planning, e.g. in the valuation process. The final draft re-allotment plan is approved at a public meeting through a judgment by the land consolidation commission, chaired by a district judge.

The Danish land bank system was established in 1919 as a tool for an active land policy, with the main objective to support the establishment of new commercial family farms. Since 1990, the state land bank, managed by the Ministry of Food, Agriculture and Fisheries, has played an essential role in supporting the land consolidation projects being implemented in connection with publicly-initiated projects on nature restoration, often defined by European Union (EU) regulations such as the Water Framework Directive and the Natura 2000 Directive. Before the land consolidation project is initiated, the land bank purchases, through normal market conditions, land in and around the area that is planned to be affected by the nature project. The land bank then sells the land as part of an agreement

³⁵⁷ Hartvigsen, M. (2014b): *Land consolidation and land banking in Denmark – tradition, multi-functionality and perspectives*. Danish Journal of Geoinformatics and Land Management, Year 122, Vol. 47, 1-7 (2014).

during the project to the landowners and farmers who are affected by the nature project.

Since 1990, the combination of land consolidation and land banking instruments have proven to be essential in the process of reaching voluntary agreements with the landowners affected by nature projects. Public funding of the traditional land consolidation projects, with agricultural development as the main objective, was discontinued in 2006. Land consolidation projects with the objectives of nature restoration are funded as a measure under the RDP with EU co-financing and with all costs being paid for the participants. Other land consolidation projects are implemented in connection with ground water protection or infrastructure projects and these projects are fully funded by the initiator, e.g. a municipality or public water supply company. The volume of the Danish land consolidation programme has been reduced by more than half compared to previous decades after the funding of the traditional projects was stopped.

7.3.3 POLICY RECOMMENDATIONS BY FAO

In the late 1990s, land fragmentation and land consolidation re-appeared on the agenda, this time in the context of Central and Eastern Europe, and FAO started to document and address problems in this area. The Munich Symposium in 2002 was a milestone in the process and the first of 15 regional workshops held to date on land consolidation, land banking and related topics. The common understanding since then has been that fragmentation and small farm sizes has meant that agrarian structures in many Central and Eastern European countries are unsuitable for today's Europe and the globalizing economy.³⁵⁸ Land consolidation is recommended as part of an integrated, participatory and community-driven approach to rural development. While the land consolidation experiences of Western Europe are valuable, transition countries should develop their own land consolidation instruments based on local preconditions and the funds available.

During the last decade, FAO has prepared and published three technical publications to give guidance for land consolidation activities in Central and Eastern Europe:

1. "The design of land consolidation pilot projects in Central and Eastern Europe". FAO Land Tenure Studies 6 (2003).
2. "Operations manual for land consolidation pilot projects in Central and Eastern Europe". FAO Land Tenure Manuals 1 (2004).

³⁵⁸ Palmer, D., Munro-Faure, P. and Rembold, F. (2004): *Land consolidation and rural development in Central and Eastern Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 2/2004.

3. “Opportunities to mainstream land consolidation in rural development programmes of the European Union”. FAO Land Tenure Policy Series 2 (2008).

The objective of the first publication is to support those who are involved with the design of land consolidation pilot projects in Central and Eastern Europe with general guidelines as to how each country could develop its own approach based on local preconditions. Principles of modern land consolidation are enhanced and it is recommended to not only improve the primary production of agricultural products but also to improve rural livelihoods through an integrated local rural development approach in a participatory and community-driven process.³⁵⁹ Furthermore, the publication recommends the development of a national land consolidation strategy. Finally, guidance is given on what should be considered in a land consolidation pilot project.

The second publication goes a step deeper and provides guidance to project managers and others directly involved on what to consider for each of the steps in the implementation of a land consolidation pilot project.

The third publication is focused on the financial side and provides guidance on how to secure funding for land consolidation from the EU co-financed Rural Development Programmes in the EU member countries, the available support measures for EU candidate and potential candidate countries, and finally the available but limited support for European Neighbourhood countries.

In addition, in 2004 FAO published “A short introduction to micro-regional planning” which supports community-led development initiatives, also in connection with land consolidation projects.³⁶⁰

Finally, the “Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food Security” were endorsed by the Committee on World Food Security (CFS), the United Nations’ forum for policies concerning world food security, in May 2012 after a lengthy consultation process involving all relevant stakeholder groups in all continents. Since then, implementation of the guidelines has been encouraged by G20, Rio+ 20, United Nations General Assembly and Francophone Assembly of Parliamentarians.³⁶¹

³⁵⁹ FAO (2003): *The design of land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Studies 6, p. 13.

³⁶⁰ Schmidt-Kallert, E. (2004): *A short introduction to micro-regional planning*. FAO.

³⁶¹ FAO website: <http://www.fao.org/nr/tenure/voluntary-guidelines/en/>

The guidelines include a section on land consolidation and land banking.³⁶² In section 13.1 it reads: *Where appropriate, States may consider land consolidation, exchanges or other voluntary approaches for the readjustment of parcels or holdings to assist owners and users to improve the layout and use of their parcels or holdings, including for the promotion of food security and rural development in a sustainable manner.* Thus, the objective of land consolidation is both on increased productivity and on sustainable rural development. Land banking is addressed in section 13.2: *Where appropriate, States may consider the establishment of land banks as a part of land consolidation programmes to acquire and temporarily hold land parcels until they are allocated to beneficiaries.* Land banking is mainly understood as a tool to support land consolidation programmes.

7.4 EXPERIENCES WITH LAND CONSOLIDATION AND LAND BANKING IN ONGOING PROGRAMMES

The first category comprises seven countries that have ongoing national land consolidation programmes, where a programme is defined as all five requirements mentioned in section 7.2 being in place. Two of the seven countries have already had a land consolidation programme running for several decades, in Poland from the 1920s and in Slovenia from the 1950s. In three of the seven (i.e. Czech Republic, Slovakia and Eastern Germany), land consolidation instruments and programmes were established at the beginning of the 1990s, shortly after the political changes in 1989. Of the remaining two countries, Lithuania has developed a programme starting from the beginning in 2000, and Serbia has gone through a process of modernizing the land consolidation instrument applied before 1990.

Section 7.4 analyses the experiences with land consolidation and land banking in these seven countries with ongoing land consolidation programmes and discusses the lessons that can be learned.

7.4.1 POLAND

Poland has a land consolidation tradition going back as long as most countries in Western Europe. The first land consolidation law was adopted in July 1923 after Poland regained independence in 1918.³⁶³ The main objective was to reduce land fragmentation, as was the case with the equivalent laws that were adopted in both the Netherlands and Denmark in 1924 (section 7.3.2).

³⁶² FAO (2012a): *Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security*, p. 23-24 (Section 13).

³⁶³ Markuszewska, I. (2013): *Land consolidation as an instrument of shaping the agrarian structure in Poland: A case study of the Wielkopolskie and Dolnoslaskie Voivodships*. *Quaestiones Geographicae* 32(3), p. 56.

The collectivization process in Poland after the Second World War, when the communist government took power, largely failed and as much as 75 percent of the agricultural land remained in private ownership as well as in private use in individual family farms.³⁶⁴ The level of fragmentation, both of landownership and land use, is rated as medium to high and is especially high in the southern and eastern provinces of the country. However, the origin of land fragmentation is not so much with the recent land reform but rather with the historical ownership structure, including that created by the land reform following the Second World War.³⁶⁵

During the period of 1945-1998, land consolidation was implemented on an area of 10 million ha with a large variation over the years, with the highest area being 430,000 ha consolidated in 1978 and the lowest being 10,000 ha after 2000.³⁶⁶

Poland received technical assistance for modernizing its land consolidation instrument as part of the preparation for EU accession. The first project “Improving land consolidation system” was funded under the EU PHARE pre-accession programme and implemented during 1996-1997 by DLG and ILIS of the Netherlands.³⁶⁷ ³⁶⁸ The objective of the project was to develop the land consolidation activities towards a broader integrated approach and included two pilots, policy advice and development of a GIS system.

The second international project on land consolidation “Support to institutional building for rural development in pilot regions in Poland (IBRD)” was implemented during 2003 by ETC and DLG of the Netherlands together with LSR of Poland.³⁶⁹ The project was funded by the bilateral Dutch development funds under the MATRA pre-accession programme. The project had two main components: i) rural development; and ii) land development. The rural development component focused on the introduction of the Leader+ approach and the land development approach focused on land consolidation. In this component,

³⁶⁴ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 15-17.

³⁶⁵ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 334 & 339.

³⁶⁶ Kozłowski, J. and Zadura, A. (2007): *Land consolidation and exchange works in Poland: Statute, experiences and priorities*. Paper presented at FAO regional land consolidation workshop in Prague.

³⁶⁷ DLG (2000): *Improving land consolidation system*. Project fact sheet & European Commission (1999): *An evaluation of PHARE financed agricultural reform programmes in the candidate member states – Final report*. Prepared by FAI Ltd. /ADE for the EC.

³⁶⁸ European Commission (1999): *An evaluation of PHARE financed agricultural reform programmes in the candidate member states – Final report*. Prepared by FAI Ltd. /ADE for the EC.

³⁶⁹ ETC-DLG-LSR (2005): *Support for institution building in rural development in pilot regions in Poland – Completion Report*.

support was provided to the adjustment of the institutional framework, introduction of procedures for environmental impact assessment (EIA), and two land consolidation pilots were implemented in southeastern Poland (Gminas Grodzisko Dolne and Potok Górny). The outcome was that local stakeholders in the two pilots prepared and applied for land consolidation projects in the communities. However, the land consolidation pilots were implemented after the finalization of the Dutch project.

Land consolidation in Poland follows a compulsory approach similar to the traditional approach of the Netherlands and Germany (see section 7.3.2). In principle, all land in the project area is consolidated and a minority of landowners may be forced into the re-allotment plan. Projects are initiated after formal requests by local landowners. If more than 50 percent of the landowners, representing more than 50 percent of the project area, vote for the implementation of the project, an application for a land consolidation project is submitted to the Head (*Starosta*) of the county (*Powiat*).³⁷⁰ If the project application is approved, a public meeting is organized and a land consolidation commission is elected. A tender for the execution of the planned construction works (e.g. new field roads) takes place. Land valuation is conducted and the valuation plan must be approved by at least 75 percent of the participants, with at least 50 percent of participants being present.³⁷¹ A re-allotment plan is then prepared by the Bureau of Geodesy in consultation with the land consolidation committee.³⁷² In principle, the participants receive land of the same value as they join the project (within ± 3 percent) but selling and buying can be included after requests of the participants.³⁷³ However, this option is not promoted much and could be used more frequently.

The re-allotment plan must be made public and participants may appeal within 14 days from the date that the plan is presented.³⁷⁴ The project is approved by the head of the *Powiat* if the majority of participants do not appeal against the developed re-allotment plan.³⁷⁵

Agricultural development through the reduction of landownership fragmentation and the improvement of rural infrastructure has always been the main objective of land consolidation in Poland. Land consolidation often led to loss in biodiversity

³⁷⁰DLG (2005a): *Technical report on the institutional aspects of land development in Podkarpackie Province, Poland*, p- 10-11.

³⁷¹ Polish land consolidation law § 13.

³⁷² DLG (2005b): *Pilot projects land consolidation Grodzisko Górne and Grodzisko Dolne, Podkarpackie Province, Poland - Technical report*, p. 7-8.

³⁷³ Polish land consolidation law § 8.

³⁷⁴ Ibid. § 24.

³⁷⁵ Ibid. § 27.

and landscape degradation, especially before 1990.³⁷⁶ After EU accession in 2004 and criticism of land consolidation resulting in the loss of biodiversity, some attempts towards a more multi-purpose approach have been developed. In 2008, procedures for environmental impact assessments (EIA) of land consolidation projects were introduced. According to the 2010 Governmental Regulation “On processes that may impact the environment”, an environmental pre-study (i.e. EIA screening) is conducted when the land consolidation project area exceeds 100 ha (or 10 ha in a nature protection area).³⁷⁷ The pre-study often leads to a revision of the land consolidation project. EU accession has made land consolidation more “friendly” to nature and the environment by introducing an EIA as a safeguard.³⁷⁸

Land consolidation in Poland is still not an integrated part of the rural development process as is known in Germany and the Netherlands or in the Czech Republic (see sections 3.2 and 4.3), and the potential for multiple purposes is not used. The legal framework does not support an integrated approach. However, there are examples in recent projects of a more multi-purpose approach being used, which may allow the projects to be used also as a tool for improvement of landscape, nature and environment.³⁷⁹ Land consolidation is sometimes applied in connection with large infrastructure projects, such as the construction of new highways, but it is not yet used as an instrument to actively restore nature, environment and landscapes. Land consolidation in the future could provide an opportunity to create diverse landscapes with conditions for the multi-purpose development of rural areas.³⁸⁰

It is often a lengthy process to get enough support from local landowners to apply for land consolidation projects.³⁸¹ This typically takes up to three years. The length of the projects after approval of the application is on average around four years including registration.³⁸² The experience is that it is much easier to get sufficient support in villages close to where there have been recent successful projects.

The Ministry of Agriculture and Rural Development (Department of Land Management) is responsible for running the national land consolidation programme. Until 1998, the Ministry was directly responsible also for the implementation of land consolidation projects. The head of the *Powiat* is

³⁷⁶ Kupidura, A. (2010): *Management of the agricultural landscape in land consolidation projects in Poland*. The Problems of Landscape Ecology, Vol. XXVIII, 163-169.

³⁷⁷ Email from Adrianna Kupidura, February 2014.

³⁷⁸ Interview with Jerzy Kozłowski in January 2014.

³⁷⁹ Interview with Adrianna Kupidura in January 2014.

³⁸⁰ Kupidura, A. et al. (2014): *Public perceptions of rural landscapes in land consolidation procedures in Poland*. Land Use Policy (2014).

³⁸¹ ETC-DLG-LRS. (2005): *Support for institution building in rural development in pilot regions in Poland – Completion report*.

³⁸² Interview with Jerzy Kozłowski in January 2014.

responsible for the implementation of the projects and their approval (there are in total 314 *Powiats*). The land consolidation project (re-allotment planning and technical works) is always carried out by the Bureaus of Geodesy at the provincial level.³⁸³ The Bureaus of Geodesy have land consolidation as their main task and have a total staff of 783 people. The staff of the bureaus are licensed for land consolidation works. No private companies are involved in land consolidation except for construction works, e.g. field roads.

Before EU accession, the land consolidation programme was funded by central, regional and local governments. From 2004, land consolidation became an eligible measure under the RDP and is co-funded by the EU with 75 percent and with 25 percent from the national budget.³⁸⁴ Land consolidation in connection with highway construction is funded by the General Directorate for National Roads and Motorways and not under the RDP.³⁸⁵ According to the RDP for 2007-2013, a total of € 160 million were allocated for land consolidation over the seven year programming period. In 2012, the budget was reduced by € 27.5 million because the *Powiats* failed to get the necessary agreement from the landowners to begin the projects.³⁸⁶

During 2004-2012, a total of 93,000 ha were consolidated under the national programme with an average of around 10,000 ha per year, and with 13,700 ha in 2012.³⁸⁷ In addition, around 670 ha have been consolidated in connection with the construction of the A4 highway in southern Poland (Germany-Ukraine highway) funded by the road authorities.

In the RDP for 2014-2020, it is planned to consolidate 200,000 ha (almost 30,000 ha per year) with the same budget that was spent during 2007-2013 for around 10,000 ha per year. It is expected that future projects will be easier, faster and cheaper because of the good experiences in recent years.³⁸⁸

The Agricultural Property Agency (APA) is responsible for the privatization programme for state agricultural land. APA participates in land consolidation projects as any other landowner with the land it may possess in the project area, usually with the same aim as private landowners of consolidating fragmented parcels. In recent years, APA has been the owner of around seven percent of the

³⁸³ Ibid.

³⁸⁴ Markuszewska, I. (2013): *land consolidation as an instrument of shaping the agrarian structure in Poland: A case study of the Wielkopolskie and Dolnoslaskie Voivodships*. *Quaestiones Geographicae* 32(3), p. 56.

³⁸⁵ Polish Land Consolidation Law §4.

³⁸⁶ Interview with Jerzy Kozłowski in January 2014.

³⁸⁷ Ministry of Agriculture and Rural Development (2013): *Land consolidation area in hectares per year 2004-12*. Unpublished.

³⁸⁸ Interview with Jerzy Kozłowski in January 2014.

consolidated land but has only sold (i.e. privatized) a limited area through the land consolidation projects. It is the experience, including for APA, that consolidated land has a higher market price than the fragmented parcels.³⁸⁹ In the northern and western parts of Poland, APA does not benefit from land consolidation projects because they often lead to the separation of large state-owned parcels into several smaller parcels. In southern and eastern Poland, APA does benefit from land consolidation through the reduction of fragmentation. APA in general does not use land consolidation as a tool for privatization but this could be considered in the future. Another consideration for the future is that APA could not only sell state land but also buy land from private owners, for example in the construction of new highways in combination with land consolidation, similar to classical Western European land banks.

EU accession for Poland has led to funding of the land consolidation programme under the RDP and has introduced EIA procedures, which have made land consolidation more gentle towards nature, environment and landscape values. The first small steps towards a more integrated and multi-purpose approach have been taken. However, the potential is far from being exploited. The potential to use land consolidation projects as a tool for privatization of the state land is seldom used. In the future, APA could develop into a land bank (see section 7.3.2). Furthermore, the potential is not fully reached to use land consolidation to facilitate a voluntary structural development by promoting the option to sell and buy additional land as an integrated part of the land consolidation process.

7.4.2 SLOVENIA

Land consolidation in Slovenia began before the Second World War but on a small scale. In the Socialist Republic of Slovenia, then part of Yugoslavia, a land consolidation law was adopted in 1957 but in total only 1,333 ha were consolidated until 1973 when the new Farmland Act was adopted with land consolidation provisions.³⁹⁰

The collectivization process in socialist Yugoslavia had largely failed and at the starting point of land reform, when Slovenia became independent in 1991, only about 17 percent of the agricultural land was state-owned. The majority of land was owned and used by small-scale family farms.³⁹¹ The farm structure in Slovenia is still dominated by many relatively small family farms with an average

³⁸⁹ Interview with Jolanta Gorska, Tomasz Ciodyk and Anna Zajac-Plezia in January 2014.

³⁹⁰ Liseč, A. et al. (2012): *The institutional framework of land consolidation – comparative analysis between Slovenia and Norway*. Paper for FIG Working Week, Rome, May 2012. P. 5-6.

³⁹¹ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 30-31.

agricultural holding size of 6.3 ha, an average size of arable land parcels of 0.3 ha, and thus an average of 22 land parcels per agricultural holding.³⁹² The share of agricultural land used through lease agreements is relatively low as only 30 percent of the total Utilized Agricultural Area (UAA) in 2005 was rented.³⁹³ The fragmentation of both landownership and land use is high, not so much because of the land reform from 1991 and onwards but more due to the ownership structure from before the Second World War, which is mostly intact.³⁹⁴

During the Yugoslavia era, the most intensive land consolidation period was between 1976-1990 when a total of almost 55,000 ha of agricultural land was included in land consolidation projects.³⁹⁵ At the beginning of the transition, the work on 125 projects was stopped. The work on these projects began again in 1995 and most of the projects have now been finalized. Land consolidation (*komasacija*) in Yugoslavia was compulsory and often applied in a top-down approach in connection with agricultural development projects, such as for irrigation and land reclamation. In addition to *komasacija*, another variant of land consolidation, *arondacija*, was used from 1976. In this process, bilateral exchange transactions were implemented and registered. *Arondacija* was often used to consolidate the state farms at the expense of the private family farmers who were often forced into the exchange process.³⁹⁶

The classical land consolidation approach in Yugoslavia (*komasacija*) is still being applied in Slovenia in a modernized and updated version. Slovenia has not received international technical assistance for land consolidation in the form of donor-funded projects but Slovenian experts have exchanged experiences and got inspiration especially from Germany (specifically Bavaria) and also to some extent from Austria.

After the amendment of the Agricultural Land Act in 2011, land consolidation can be implemented with two fundamentally different approaches: i) compulsory land consolidation after agreement with the owners of at least two-thirds of the land in the project area; and ii) voluntary land consolidation. So far, there are no experiences with the new voluntary approach but the methodology is similar to

³⁹² Liseč, A. et al. (2012): *The institutional framework of land consolidation – comparative analysis between Slovenia and Norway*. Paper for FIG Working Week, Rome, May 2012. P. 3-4.

³⁹³ Swinnen, J. and Vranken, L. (2009): *Land and EU accession – Review of transitional restrictions by new member states on the acquisition of agricultural real estate*. Centre for European Policy (CEPS), p. 16.

³⁹⁴ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

³⁹⁵ Liseč, A. et al. (2012): *The institutional framework of land consolidation – comparative analysis between Slovenia and Norway*. Paper for FIG Working Week, Rome, May 2012. P. 5-6.

³⁹⁶ Interview with Anka Liseč in January 2014.

that of the compulsory projects except that all landowners have to agree with the initiation of the land consolidation project and the local public administration office is involved only as the party that has to accept the re-allotment plan.

Today, compulsory land consolidation is initiated at the request of the local landowners in the project areas, as opposed to the pre-war top-down approach. Landowners who own at least 67 percent (and 80 percent until 2011) of the land in the project area must support the application to the local public administration office (i.e. local state office responsible for agriculture).³⁹⁷ The local public administration office decides whether the project shall proceed. The re-allotment planning and technical works are carried out by a land consolidation commission established for each project and are supported by a private surveying company selected after a tender process. At the initial stage, the ownership rights and boundaries in the field are clarified and, if necessary, new surveying is carried out. Landowners get new land of the same value as the land with which they joined the project. The process does not encourage selling and buying between the participants but such transactions may be included when the landowners request and agree with this on a voluntary basis. This option, however, is not generally promoted in the projects.³⁹⁸

The final re-allotment plan is accepted by the decision of the local public administration office. Any decision of the local public administration office may be appealed in the first level to the local public administration office and in the second level to the Ministry of Agriculture and Environment.

Land consolidation procedures are still much the same as those before the beginning of the transition in 1991 but the active involvement of the landowners in the process has been strengthened. A recent study shows a high level of satisfaction among the participating landowners and that the satisfaction increases with the active involvement of the landowners in the negotiation process.³⁹⁹ The length of projects used to be around seven years.⁴⁰⁰ In recent years, the average project period is around five years.⁴⁰¹

Traditionally, the main objective for doing land consolidation has been to reduce fragmentation of landownership and land use, often in connection with larger agricultural development projects. This tradition continues today. Land

³⁹⁷ Liseč, A. et al. (2012): *The institutional framework of land consolidation – comparative analysis between Slovenia and Norway*. Paper for FIG Working Week, Rome, May 2012.

³⁹⁸ Interview with Anka Liseč in January 2014.

³⁹⁹ Liseč, A. et al. (2014): *Land owners' perception of land consolidation and their satisfaction with the results – Slovenian experiences*. Land Use Policy vol. 38 (2014).

⁴⁰⁰ Ravnikar, L. and Tanko, D. (2005): *Land consolidation in Slovenia*. Paper prepared for FAO regional land consolidation workshop in Prague.

⁴⁰¹ Interview with Anka Liseč in January 2014.

consolidation is, in some cases but not always, also used to alleviate the consequences on the holdings and farm structures caused by large infrastructure projects such as highways and railroads.⁴⁰² Recent examples are in eastern Slovenia with the construction of the new highway and railway from Ljubljana to Budapest.⁴⁰³

The land consolidation projects implemented before 1991 led to a loss of biodiversity and landscape degradation in many situations.⁴⁰⁴ In the western part of the country many hedges between fields were removed after land consolidation, resulting in increased wind erosion.⁴⁰⁵ Today, EIA of land consolidation are conducted in projects where the land use is changing.⁴⁰⁶ Local rural infrastructure, e.g. field and access roads, are planned and constructed as part of the land consolidation projects, which must comply with spatial plans. However, there are no examples of land consolidation being implemented in connection with nature restoration or environmental projects where the objective is to change the land use (e.g. from arable land to nature protection).

The Ministry of Agriculture and Environment (MoAE) is responsible for the national land consolidation programme and for the overall implementation of projects, with the projects being approved by the 60 local state offices. The implementation of land consolidation projects (e.g. re-allotment planning and surveying works) is tendered out to private surveying companies. Re-allotment planning, surveying and marking of new boundaries may be performed only by authorized land surveyors.

Before 2007, the costs were mainly funded by the state budget. From 2007, land consolidation became an eligible measure under the RDP and is co-funded by the EU, with 25 percent coming from the national budget and 75 percent from the EU.⁴⁰⁷ During 2007-2013, a total of 51 land consolidation projects, with a total of 10,371 ha, were granted support under the RDP. On average, seven projects were initiated each year.⁴⁰⁸ The average project area is 203 ha. The RDP for 2007-2013 allocated a total of € 17.4 million for land consolidation projects for 50 projects and all available funds during 2007-2013 were absorbed.

⁴⁰² Ravnikar, L. and Tanko, D. (2005): *Land consolidation in Slovenia*. Paper prepared for FAO regional land consolidation workshop in Prague.

⁴⁰³ Interview with Anka Lisec in January 2014.

⁴⁰⁴ Lisec, A. and Pintar, M. (2005): *Conservation of natural ecosystems by land consolidation in the rural landscape*. Acta Agriculturae Slovenica, 85-1, May 2005.

⁴⁰⁵ Interview with Anka Lisec in January 2014.

⁴⁰⁶ Email from Anka Lisec in March 2014.

⁴⁰⁷ Ministry of Agriculture, Forestry and Food. (2007): *Rural Development Programme of the Republic of Slovenia 2007-13*, p. 113-115.

⁴⁰⁸ Email from Tomaz Primožič in November 2013.

Slovenia plans to continue funding the land consolidation programme under the RDP for 2014-2020 with at least the same volume (i.e. around 10,000 ha). The MoAE has a list of around 100 potential projects where the local stakeholders have shown interest for projects.⁴⁰⁹

The Slovenian state land fund still had around 60 000 ha (i.e. nine percent of all agricultural land) in its possession in 2011.⁴¹⁰ At that time, the land fund sold only 11 ha but bought 304 ha of agricultural land. Slovenia has no plans for mass privatization of the remaining state agricultural land. However, agricultural land from the fund can be sold if requested by private farmers, and leaseholders have a pre-emptive right for purchase. The state land fund participates in land consolidation projects where it is an owner in the project area. The land fund has the same objectives as the private owners, i.e. to consolidate scattered parcels and leave the project with land of the same value with which it joined the project. There are very few examples, if any, where the land fund has privatized land in land consolidation projects.⁴¹¹

It is expected that the procedures for implementing land consolidation in connection with irrigation projects will be improved after the finalization of an ongoing pilot. Furthermore, there are considerations for land consolidation to become an instrument for the implementation of nature and environmental projects.⁴¹²

The land consolidation tradition in Slovenia goes back to before the Second World War. The large-scale top-down *komasacija* projects, implemented mainly in the 1970s and 1980s, often led to loss in biodiversity and landscape degradation. Since the independence in 1991, Slovenia has modernized its land consolidation instrument and today, projects are driven by local stakeholders with a relative high level of satisfaction among the participating landowners.⁴¹³ The EU membership in 2004 has led to the introduction of EIA procedures.

The potential to use land consolidation as a tool for the enlargement of agricultural holdings appears not to be fully used since the participants typically receive land of same value as that with which they joined the project, and selling and buying is usually not encouraged or facilitated by the land consolidation professionals.

⁴⁰⁹ Interview with Anka Liseč in January 2014.

⁴¹⁰ Liseč, A. (2012): *Unpublished notes on land reform and land restitution in Slovenia*.

⁴¹¹ Interview with Anka Liseč in January 2014.

⁴¹² Email from Anka Liseč in March 2014.

⁴¹³ Liseč, A. et al. (2014): *Land owners' perception of land consolidation and their satisfaction with the results – Slovenian experiences*. Land Use Policy vol. 38 (2014).

The potential for using the land stock of the state land fund in land consolidation projects to privatize state land and enlarge the private agricultural holdings is not applied either. The land fund could become a revolving land bank where the revenue from selling land in land consolidation projects is used to voluntarily purchase private agricultural land in potential land consolidation project areas. Hence, the stock of state land could remain the same but the land fund could be used to increase the size of agricultural holdings. Finally, the potential to use land consolidation as a tool for implementation of nature and environmental projects (e.g. defined by the Water Framework Directive and Natura 2000 Directive) is currently also not used.

7.4.3 CZECH REPUBLIC

Land consolidation in the Czech Republic has its historical roots in the first Law on Farming Land Redistribution that was adopted by the Austro-Hungarian Empire in 1868.⁴¹⁴ After the political changes in 1989, land consolidation in the Czech Republic was introduced in 1991 (then as Czechoslovakia) by the adoption of the Law on Land Consolidation, Land Ownership Organization, Land Offices, Land Fund and Land Associations. Shortly after the velvet revolution in 1989, close relations were established with land consolidation authorities in Germany (especially in Bavaria) and Austria, which has had a strong influence on the Czech land consolidation model. The first simple land consolidation projects were implemented and from 1994 comprehensive land consolidation projects were started.⁴¹⁵ The introduction of land consolidation was tightly connected with the land reform in the country.⁴¹⁶

The land reform process in the Czech Republic resulted in farm structures still completely dominated by large-scale corporate farms.⁴¹⁷ In 2005, as much as 86 percent of the total UAA was leased from the owners, and the use and ownership of the agricultural land have been almost completely separated.⁴¹⁸ The

⁴¹⁴ Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV – Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 194.

⁴¹⁵ Kovandova, M. (2006): *Could the land consolidation process be an effective tool for nature and environmental protection in the Czech Republic?* Conference paper for FIG Congress in Munich.

⁴¹⁶ Swinnen, J. & Mathijs, E. (1997): *Agricultural privatization, land reform and farm restructuring in Central and Eastern Europe: A comparative analysis*. In Swinnen, J. et al. (Edt.). 1997. *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd. P. 341.

⁴¹⁷ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 10-11.

⁴¹⁸ Swinnen, J. and Vranken, L. (2009): *Land and EU accession – Review of transitional restrictions by new member states on the acquisition of agricultural real estate*. Centre for European Policy (CEPS), p. 16.

land reform process in the Czech Republic resulted in the re-establishment of the highly-fragmented ownership structure that existed before 1948, with an average size of agricultural parcels of 0.4 ha. Co-ownership is widespread and continues through inheritance. The average number of parcels per owner is 1.59.⁴¹⁹ In addition, land parcels were often restituted with the former boundaries and without any road access as the historical roads had been removed or replaced during the collectivization.⁴²⁰

The Czech Republic did not receive technical assistance in connection with the development of its land consolidation programme in the form of donor-funded projects.⁴²¹ However, land consolidation experience from Bavaria and Upper Austria gave, as mentioned, inspiration to setting up the programme in the 1990s.⁴²²

The land consolidation approach is always applied in a compulsory approach. Projects are initiated by District Land Offices when the owners of at least 50 percent of the land in the project area support the initiation of a project. The District Land Office can approve the developed re-allotment plan when at least 75 percent of the owners of the project area agree with the plan.⁴²³ Projects can also be initiated by the District Land Offices based on public needs (e.g. to combat risk of erosion, ensure flood protection, need for rural roads etc.) and as part of major infrastructure construction, such as new highways.⁴²⁴

If a minority of landowners is not satisfied with the re-allotment plan, they may appeal to the District Land Office, which will forward the appeal to the State Land Office, and sometimes the project is revised after an appeal.

Land consolidation has been implemented in two different approaches: i) simple land consolidation; and ii) comprehensive land consolidation. Land consolidation is regulated by Law no. 139/2002 on Land Consolidation and Land Offices and by

⁴¹⁹ Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013.

⁴²⁰ Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 193.

⁴²¹ Email from Jiri Fiser in July 2014.

⁴²² Travnicek, Z. et al. (2011): *Optimization of the Land Offices organization in the Czech Republic*. Agricultural Economics 57 (2011) and Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 194.

⁴²³ Interview with Katerina Juskova in August 2014.

⁴²⁴ Email from Katerina Juskova in April 2014.

Decree no. 13/2014 on the Procedure for the Implementation of Land Consolidation.⁴²⁵

In the early 1990s simple land consolidation was used in the restitution process to consolidate scattered land parcels for those interested in starting to farm. Only the use rights were transferred, and not the ownership of land, in a process where landowners received land of so-called “interim use” instead of their owned parcels without road access.⁴²⁶ Later, simple land consolidation has been used in smaller areas (i.e. less than one cadastral area) and involves the exchange of land parcels (i.e. ownership rights) between a number of owners and it may include urgent measures for nature and environmental protection (e.g. erosion and flood control measures). Simple land consolidation is also applied in connection with construction of main roads.⁴²⁷

Comprehensive land consolidation has been implemented since 1994. Each project covers mostly one cadastral area (unit). A local community development plan, a so-called “plan of common facilities”, is prepared as part of the project and includes measures for erosion control, flood protection, water management, and field and access roads. The project area is always surveyed and the cadastre and land register is completely renewed as an integrated part of the land consolidation process.

Participating landowners receive land of the same value (within ± 4 percent), size (within ± 10 percent) and distance from village (within ± 20 percent) from the re-allotment planning as the land with which they entered the project.⁴²⁸ Selling and buying of additional land is not encouraged or facilitated in the process by the District Land Office. Landowners and farmers interested in the purchase of additional land may, on their own initiative, buy land through the normal local market from private owners in the project area who are willing to sell, and subsequently have this land consolidated as part of the re-allotment process.⁴²⁹ The average length of comprehensive projects in recent years has been around five to six years and three years for simple land consolidation projects.⁴³⁰

⁴²⁵ Ibid.

⁴²⁶ Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV – Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 193.

⁴²⁷ Kovandova, M. (2006): *Could the land consolidation process be an effective tool for nature and environmental protection in the Czech Republic?* Conference paper for FIG Congress in Munich.

⁴²⁸ Email from Jiri Fiser in July 2014.

⁴²⁹ Interview with Katerina Juskova in August 2014.

⁴³⁰ Kovandova, M. (2006): *Could the land consolidation process be an effective tool for nature and environmental protection in the Czech Republic?* Conference paper for FIG Congress in Munich.

From the beginning, there were a number of objectives with the Czech land consolidation instrument. These were: i) to address the excessive fragmentation of landownership; ii) to support the restitution process; iii) to ensure renewal and update of cadastre and land register; and iv) to provide conditions for improvement of the environment, protection of land and water resources and create access to land parcels.⁴³¹ Today, where the restitution has been finalized, this is no longer an objective. Land consolidation, however, remains tightly connected with land administration and improving the quality of the cadastre and land registration, and half the costs for land consolidation are spent on land surveying and improving land registration and establishing a digital cadastre.⁴³² At the initial stage, it was also the political intention to use land consolidation to enable landowners to farm their own land in family farms. This, however, has mostly not happened.⁴³³ Furthermore, the improvement of the farm structure (i.e. land use) has not been an objective for land consolidation in the Czech Republic in practice.⁴³⁴

As mentioned, a “plan of common facilities” is prepared as part of the land consolidation process in the comprehensive projects and measures for protection and improvement of nature and environment in the project area are included in the project. Thus, the projects have a positive impact on nature and environment. In most projects, an EIA is not required.⁴³⁵ There are good experiences with the use of the plans of common facilities in connection with land consolidation projects.⁴³⁶ Municipalities are increasingly interested in starting land consolidation projects in order to implement rural development projects and deal with climate change but also because the experiences show that areas with completed land consolidation projects experience more rapid economic development than areas without them.⁴³⁷ The rural development elements in land consolidation projects have significantly increased (e.g. flood control, renewal of

⁴³¹ Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013.

⁴³² Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV - – Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 197.

⁴³³ Trnka, J. and Pivcova, J. (2005): *The situation of land management and reparcelling in the Czech Republic*. Paper for FAO Prague land consolidation workshop and interview with Katerina Juskova in August 2014.

⁴³⁴ Cihal, L. (2006): *Remarks on the land consolidation in the Czech Republic*. Paper for FAO Prague land consolidation workshop.

⁴³⁵ Email from Jiri Fiser in July 2014.

⁴³⁶ Interview with Katerina Juskova in August 2014.

⁴³⁷ Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV - – Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 196-199.

field roads, anti-erosion measures etc.) after EU funds became available as part of EU accession.

The State Land Office is responsible for land consolidation activities in the Czech Republic and operates across the whole country. It is a state organization subordinate to the Ministry of Agriculture. The State Land Office consists of its headquarters in Prague and of 14 Regional Land Offices working in higher territorial self-governing units. For the land consolidation process, the State Land Office established 62 District Land Offices. Land consolidation projects are implemented by the District Land Offices in cooperation with the Cadastral Offices. The fieldwork (e.g. plan of common facilities, re-allotment planning and surveying) in the projects is tendered out to private surveying companies. According to the land consolidation law, persons who conduct re-allotment planning must possess an authorization issued by the State Land Office. In 2005, 450 persons had obtained such authorization.^{438 439}

A current problem for the outcome of the Czech land consolidation projects is that there is insufficient money for the projects and the price per ha reduced significantly in the past years. Competition among private companies is strong, and they often use candidates directly from university without practical experience because of the low prices. At the same time, the staff of the land offices has been reduced by around one-third.

Land consolidation was funded by the state budget until 2002 when it was included as a support measure under the SAPARD programme (2002-2004). After EU accession it was funded for 2004-2006 under the OP agriculture programme. During 2007-2013, land consolidation has been funded under the RDP with an annual budget of € 28.3 million per year (i.e. for a total of € 159 million).⁴⁴⁰ It is expected that the volume in the land consolidation programme for the programming period for 2014-2020 will be approximately the same as it was for 2007-2013.⁴⁴¹

In the period between the early 1990s and the end of 2013, a total of 2,453 comprehensive land consolidation projects had been started. Of these, 1,683 had been completed and 770 were ongoing.⁴⁴² A total of 1.15 million ha had been included in completed or ongoing comprehensive projects. By the end of 2012, the

⁴³⁸ Trnka, J. and Pivcova, J. (2005): *The situation of land management and reparcelling in the Czech Republic*. Paper for FAO Prague land consolidation workshop.

⁴³⁹ Interview with Katerina Juskova in August 2014.

⁴⁴⁰ Pivcova, J. (2007): *Land consolidation in the Czech Republic and support from EU funds in 2007-13*. Paper for FAO regional land consolidation workshop in Prague.

⁴⁴¹ Email from Jiri Fiser in July 2014.

⁴⁴² Ibid.

comprehensive projects covered around 26 percent of all agricultural land in the country.⁴⁴³ In addition, 2,824 simple projects, covering around 300 000 ha, had been initiated between the early 1990s and the end of 2013.

In a study in 2011 of 487 land consolidation projects during 1989–2005, it was found that the number of land parcels of the average owner was reduced from 6.3 from before the projects to 3.1 after the projects. The average parcel size increased from 0.43 ha to 0.88 ha.⁴⁴⁴

In 2007, about 0.45 million ha, or 13 percent of the UAA, remained under the administration of the Land Fund. Of this, around 0.26 million ha were under privatization through sale.⁴⁴⁵ State- and municipality-owned agricultural land participates in the land consolidation process, and state and municipal land may be consolidated as an outcome. In addition, the available state and municipal land is used for the implementation of the “plan of common facilities”. If there is not enough state and municipal land for these purposes, the District Land Office may purchase private land for the purpose. In this case the price is regulated and is not the local market price.⁴⁴⁶ If it is not possible for the land office to purchase the land needed for the planned common facilities, all participating landowners can be required to contribute with the same percentage of their land without compensation. This is not popular among the participants.

Land consolidation in the Czech Republic is mostly a technical exercise with a focus on surveying and renewing of the cadastre and land register (and in the 1990s on the restitution of land to former owners) and has less emphasis on increasing productivity through more efficient land use. Land consolidation is used successfully as a tool for local rural development and for nature and environmental protection and improvement. The potential to use land consolidation for the enlargement of farms is not fully utilized, as this is not facilitated in the re-allotment process.

7.4.4 SLOVAKIA

Land consolidation in Slovakia followed the same path as in the Czech Republic (see section 7.4.3) in the initial stage after 1989 until the peaceful dissolution of Czechoslovakia in 1993. After the political changes in 1989, land consolidation was also introduced in 1991 by the adoption of the Law on Land Consolidation, Land

⁴⁴³ Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013, p. 1.

⁴⁴⁴ Sklenicka, P. et al. (2009): *Historical, environmental and socio-economic driving forces on land ownership fragmentation, the land consolidation effect and the project costs*. *Agricultural Economics* 55 (2009), 571–582.

⁴⁴⁵ Ciaian, P. et al., (2012): *Sales market regulations for agricultural land in the EU member states and candidate countries*. Factor Markets Working Paper no. 14.

⁴⁴⁶ Interview with Katerina Juskova in August 2014.

Ownership Organization, Land Offices, Land Fund and Land Associations. Shortly after the velvet revolution, close relations were established with land consolidation authorities in Germany (especially in Bavaria) and Austria, which has had a strong influence on the Slovak land consolidation model. The introduction of land consolidation was tightly connected with the land reform in the country.

The farm structure today is still completely dominated by large-scale corporate farms that effectively took over from the socialist cooperatives. In 2005, as much as 91 percent of the UAA was farmed on rented land.⁴⁴⁷ The land reform process in Slovakia resulted in the re-establishment of the highly fragmented ownership structure that existed before 1948, with an average size of agricultural land parcels of 0.56 ha. The average number of parcels per owner is as high as 20.59. On average, each parcel has 11.1 co-owners. Ownership fragmentation is often so excessive that agricultural land parcels cannot be used separately.⁴⁴⁸ The ownership fragmentation (including co-ownership of land) is typically a bottleneck for land market development as it is often impossible to dispose of the land because of the need for agreement of all the co-owners. Slovakia has the highest level of co-ownership in agriculture among the EU countries.⁴⁴⁹ In addition, Slovakia has severe problems with unknown owners of agricultural land. However, land use fragmentation is very low.⁴⁵⁰ In the Slovakian case, fragmentation is mainly a problem for the land registers, land market development and for private farmers who may want to establish family farms based on owned land but it is not a big practical problem for the agricultural production on the land.

Slovakia did not receive technical assistance in the form of donor-funded projects for its land consolidation programme. Land consolidation experience from Bavaria and Upper Austria, however, gave inspiration to setting up the programme in the 1990s.⁴⁵¹

⁴⁴⁷ Swinnen, J. and Vranken, L. (2009): *Land and EU accession – Review of transitional restrictions by new member states on the acquisition of agricultural real estate*. Centre for European Policy (CEPS), p. 16.

⁴⁴⁸ Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013.

⁴⁴⁹ Schwarcz, P. et al. (2013): *Selected issues of the agricultural land market in the Slovak Republic*. Journal of Central European Agriculture, 2013, 14(3), p. 253.

⁴⁵⁰ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁴⁵¹ Email from Jaroslav Bazik in March 2014.

The approach to land consolidation in Slovakia is always compulsory as projects can be initiated and implemented when at least the landowners of two-thirds of the land in the project area give their acceptance.⁴⁵²

Two types of land consolidation projects are implemented: complex land consolidation projects and simple projects. Complex projects usually cover a full cadastre area. In complex land consolidation projects, there are always both a re-allotment planning and an improvement of landscape values in an integrated process and both objectives are of equal importance. Simple projects cover a smaller area.⁴⁵³ They are often implemented in connection with investment projects (e.g. infrastructure projects).⁴⁵⁴ The procedures in simple projects are the same as in complex projects.

Projects are often initiated by the District Land Offices and are often based on the interest of local landowners. Landowners get out of the project land of the same value with which they entered the project.⁴⁵⁵ Sale and purchase of land is not encouraged during the land consolidation process. Interested buyers may buy additional land before the project is implemented and have it consolidated in the project. However, in reality the selling-buying option is only restricted during three months towards the end of the project when the land market in the project area is “closed”.⁴⁵⁶ The average length of projects was around 10 years in the 1990s.⁴⁵⁷ In recent years the average project duration has been reduced to 7-8 years. The Ministry of Agriculture and Rural Development expects that new projects will have a duration of only 2-3 years.⁴⁵⁸

Since the introduction of land consolidation in 1991, the main objectives have been to reduce ownership fragmentation, including co-ownership, and at the same time to simplify and update the cadastre and land register. The ownership problems cannot be solved by the individual owners. Land consolidation projects, especially the complex projects, in addition have aimed at improving nature and landscape values. Furthermore, it is an objective to create road access to the land parcels in the projects. In recent years, there is a tendency for the emphasis of land consolidation to shift from a focus on restructuring of agriculture towards a more

⁴⁵² Ibid.

⁴⁵³ Interview with Muchova and Bazik in March 2014.

⁴⁵⁴ Muchova, Z. and Petrovic F. (2010): *Changes in the landscape due to land consolidations*. Ekologia – International Journal for Ecological problems of the Biosphere, Vol. 29, 2010/2, p. 144

⁴⁵⁵ Muchova, Z. et al. (2012): *Process on land consolidation in Slovakia (Case study of Velke Vozokany)*.

⁴⁵⁶ Interview with Muchova and Bazik in March 2014.

⁴⁵⁷ Research Institute of Agricultural and Food Economics (2009): *Ex post evaluation of the SAPARD programme in the SR – Final report*, p. 197.

⁴⁵⁸ Email from Zlatica Muchova and Jaroslav Bazik in June 2014.

multi-purpose approach by balancing the interests of agriculture, landscape, nature conservation, recreation and transportation.⁴⁵⁹

In complex land consolidation projects, a screening for environmental impact is included in the project preparation. There is no specific EIA screening of projects where only ownership and not land use changes considerably.⁴⁶⁰ A “plan of common facilities” is prepared as part of the complex projects which integrates the re-allotment planning with local community development needs, such as new field roads, measures against erosion and measures for improvement of the nature and landscape values. Hence, land consolidation projects contribute to the enhancement of the landscape in the project areas.⁴⁶¹

The Ministry of Agriculture and Rural Development has overall responsibility for the national land consolidation programme. Land consolidation projects are approved by the Head of the Regional Land Office and are implemented by the eight Regional Land Offices and 72 District Land Offices. Regional and district offices, which are part of the administrative structure of the Ministry, were reorganized from January 2014. For the project implementation, District Land Offices prepare tenders for private surveying companies to do the re-allotment planning as well as surveying and other technical works. The land consolidation law was amended in May 2014 and this opens the possibility for District Land Offices to do some of the fieldwork of the projects in the future.⁴⁶²

Land consolidation, which was started in 1991, stopped again in 1993 because procedural problems in relation to land registration hindered the implementation. Only eight projects were implemented in the 1990s. These were funded by the state budget. Land consolidation projects began again only in 2003 under the SAPARD programme after amendment of the legal framework had ensured coordination of the modernization of cadastre and land registers with the implementation of land consolidation projects. In total, € 39 million was spent under the SAPARD programme on 110 projects initiated during 2003-2006.⁴⁶³ During 2006-2008, 122 projects, for a total value of € 33 million, were initiated under the short EU Rural Development Programme after EU accession in 2004. Of the total 232 projects, only 25 were completed before the end of 2008 and the others continued

⁴⁵⁹ Varga, V. and Bazik, J. (2013): *Land consolidation as a useful tool for rural development*. MendelNet 2013, p. 527.

⁴⁶⁰ Interview with Zlatica Muchova and Jaroslav Bazik in March 2014.

⁴⁶¹ Muchova, Z. and Petrovic F. (2010): *Changes in the landscape due to land consolidations*. *Ekologia – International Journal for Ecological problems of the Biosphere*, Vol. 29, 2010/2.

⁴⁶² Email from Muchova and Bazik in September 2014.

⁴⁶³ Email from Muchova and Bazik in June 2014.

under the RDP for 2007-2013. In addition, 112 projects were started under the RDP for 2007-2013.

During the period of 2003-2013, a total of 197 land consolidation projects were completed. In 2012, the implementation of 241 projects was ongoing. The total of 438 projects cover 12 percent of all cadastral areas in Slovakia.⁴⁶⁴ The 110 projects that started under the SAPARD programme of 2003-2006 covered a total of around 77,000 ha with an average of around 700 ha per project.⁴⁶⁵ There will be a budget of € 70 million for land consolidation projects in the RDP for 2014-2020. Land consolidation projects result in increased land and lease prices in the project areas.⁴⁶⁶

In 2006, seven percent of UAA remained state-owned, and with a further 438,000 ha of UAA (as much as 23 percent) with unknown ownership. Both categories are managed by the Land Fund and are often leased out to the large corporate farms.⁴⁶⁷ State land may be privatized through sale, but this is not the case of land with unknown ownership. In recent years, efforts have been made to solve the problems with unknown ownership and in 2012, the share of UAA with unknown ownership had decreased to 14 percent, and a total of 19 percent of UAA was under state control (i.e. state land and land with unknown ownership).⁴⁶⁸ The State Land Fund participates in land consolidation projects representing the state land and the land of unknown owners and these lands are also consolidated as part of the process.

Land consolidation in Slovakia is mostly focused on the reduction of landownership fragmentation (including co-ownership) as well as solving problems with land registration but it has also been applied as an instrument for local rural development and nature protection. EU accession led to funding under SAPARD and later in the RDP and also to the introduction of procedures for EIA of complex land consolidation projects. The potential to use land consolidation for the enlargement of agricultural holdings is not encouraged as landowners usually receive land of the same value as the land with which they entered the re-allotment planning. Land consolidation in Slovakia is currently moving slowly towards a

⁴⁶⁴ Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013.

⁴⁶⁵ Research Institute of Agricultural and Food Economics (2009): *Ex post evaluation of the SAPARD programme in the SR – Final report*, p. 197.

⁴⁶⁶ Schwarcz, P. et al. (2013): *Selected issues of the agricultural land market in the Slovak Republic*. Journal of Central European Agriculture, 2013, 14(3).

⁴⁶⁷ Ciaian, P. et al. (2012): *Sales market regulations for agricultural land in the EU member states and candidate countries*. Factor Markets Working Paper no. 14.

⁴⁶⁸ Schwarcz, P. et al. (2013): *Selected issues of the agricultural land market in the Slovak Republic*. Journal of Central European Agriculture, 2013, 14(3).

more multi-purpose approach with, at the same time, a focus on reduction of ownership fragmentation and local rural development.

7.4.5 EASTERN GERMANY

The German land consolidation tradition is more than 150 years old.⁴⁶⁹ While Western Germany developed modern land consolidation in the decades after the Second World War, in Eastern Germany, after four decades of collectivization, land consolidation was reintroduced shortly after the German reunification in 1990 and through which membership of the EU was attained.

After more than 20 years of land reform, the farm structure in Eastern Germany is dominated by medium-sized family farms and large-scale corporate farms, often as the successors of the cooperative farms. Land reform has resulted in a medium level of fragmentation of landownership and a low to medium level of land use fragmentation.⁴⁷⁰

The eastern German states (*Länder*) drew on the Western German land consolidation experience and experts when land consolidation was re-introduced after 1990. Shortly after the reunification, partnerships were established whereby one western German state supported one eastern German state in building up capacity for land consolidation. These partnerships ran for around 10 years until the late 1990s. In this way, the Eastern German *Länder* received much more technical assistance for land consolidation than any of the other transition countries.⁴⁷¹

Land consolidation is regulated by the federal Land Consolidation Act. The law has been applied in Eastern Germany since the Reunification in 1990. According to the law, five types (instruments) of land consolidation can be applied: i) Comprehensive land consolidation; ii) Voluntary land exchange; iii) Accelerated land consolidation; iv) Simplified land consolidation; and v) Land consolidation in case of permissible compulsory acquisition.⁴⁷²

For the Eastern German *Länder*, in addition to the general law, the Agricultural Adjustment Law is applied. This is a special regulation concerning re-arrangement and adjustment of farms and rural real property in conjunction with the restitution

⁴⁶⁹ Thomas, J. (2004): *Modern land consolidation – recent trends on land consolidation in Germany*. Paper from FIG symposium on modern land consolidation, Volvic, France p. 5.

⁴⁷⁰ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁴⁷¹ Interview with Joachim Thomas in September 2014.

⁴⁷² Thomas, J. (2014): *Safeguarding real property rights and rational use by conflicting private and public interests – The German approach*. Geodetski Vestnik Vol. 58, No. 3/2014, p. 535.

process.⁴⁷³ In some cases, land consolidation was used to give claimants consolidated land and not the land in original boundaries, which was often in fragmented parcels. Where land consolidation was conducted in parallel with restitution, all costs were covered by the Federation and counted as the cost of the German reunification as opposed to the usual situation where participants normally cover 20-30 percent of the costs of land consolidation projects.⁴⁷⁴

Land consolidation activities are organized at the *Länder* level with the Ministry of Agriculture being the main responsible authority. All *Länder* have established a state Land Consolidation Authority, which implements the projects, and an Upper Land Consolidation Authority, which is responsible for the approval of the projects and the coordination of land consolidation activities. In most *Länder*, non-profit rural associations, the so-called *Landgesellschaften*, carry out tasks related to land consolidation, land banking, spatial planning, village renewal etc. through contracts with the state government, including the land consolidation authorities.

Land consolidation is both a planning and implementation tool where planning and implementation are closely connected with each other through, first, the preparation of a “plan for common and public facilities” and then the subsequent re-allotment of parcels in the project area.⁴⁷⁵

Land consolidation is applied through the five mentioned instruments defined in the Land Consolidation Act, both with compulsory and voluntary approaches. Which type is applied depends on which goals are to be pursued in the specific project.⁴⁷⁶ The Land Consolidation Authority decides which instrument to apply in each case. Of the five types of land consolidation, “voluntary land exchange” is the simplest and fastest. The voluntary land exchange projects can be implemented with the participation of only two participants. In case of more than two applicants, the landowners use a “mediator” which can be financed by the Land Consolidation Authority. The mediator is an external private surveyor or agronomist paid by the project. It is not usual to involve many landowners in voluntary land exchange projects but to work with the initiators only. Voluntary projects with, for example, 50 landowners are rare but possible. According to the Land Consolidation Act the objectives for voluntary land exchange projects can only be i) improving the agricultural structure and ii) nature protection issues in relative small and simple projects. Where only a few farmers are affected by a

⁴⁷³ Thomas, J. (2004): *Modern land consolidation – recent trends on land consolidation in Germany*. Paper from FIG symposium on modern land consolidation, Volvic, France p. 9.

⁴⁷⁴ Interview with Joachim Thomas in September 2014.

⁴⁷⁵ Thomas, J. (2014): *Safeguarding real property rights and rational use by conflicting private and public interests – The German approach*. *Geodetski Vestnik* Vol. 58, No. 3/2014, p. 534.

⁴⁷⁶ Interview with Joachim Thomas in September 2014.

nature project they are offered land in compensation of equal value through a voluntary land exchange project. When the re-allotment plan has been drafted by the private mediator in the voluntary projects and all the involved landowners agree with the solutions, the project is submitted to and implemented by the Land Consolidation Authority.

In the comprehensive land consolidation instruments, the re-allotment planning is done by the staff of the Land Consolidation Authority. “Comprehensive land consolidation” is a core element in a planned integrated rural development. In some parts of the project area, the scattered and poorly-shaped parcels are consolidated to improve agricultural production conditions. In other parts of the project area, publicly-initiated change in land use is implemented in connection with, for example, nature and flood protection projects or infrastructure projects. Land consolidation is implemented as an alternative to expropriation.⁴⁷⁷ “Simplified land consolidation” is the type that is commonly applied and is mainly used to provide private landowners and farmers with land in compensation for land lost to public projects such as infrastructure and nature protection.⁴⁷⁸ “Accelerated land consolidation” is usually applied when the objective of the project is the improvement of the agricultural and forestry structures combined with protection of nature and landscape and when a new road system and major water management improvement is not needed.

While the voluntary land exchange is naturally voluntary, the four other types of land consolidation are compulsory and implemented when the project is approved by the Upper Land Consolidation Authority.⁴⁷⁹ Unlike most other countries with a compulsory land consolidation approach, Germany has no specific threshold (i.e. percentage of landowners’ acceptance) for beginning and approving land consolidation projects. Land consolidation projects begin only after specific initiatives from farmers, nature authorities, NGOs or others and they must be in line with regional or local development strategies. When a project is approved by the Upper Land Consolidation Authority, participants may appeal against the re-allotment plan, which is typically done by 10 percent of the landowners. Negotiations then begin again and result in a revision of the re-allotment plan. Typically less than 0.5 percent of landowners then appeal to the Court in the first stage, and with less than 0.01 percent of landowners appealing to the Court in a

⁴⁷⁷ ARGE Landentwicklung. (2012): *Guidelines for rural development*. Prepared by Bund – Länder – Task Force for Sustainable Rural Development, p. p. 23.

⁴⁷⁸ Thomas, J. (2014): *Safeguarding real property rights and rational use by conflicting private and public interests – The German approach*. Geodetski Vestnik Vol. 58, No. 4/2014, p. 535-542.

⁴⁷⁹ Thomas, J. (2006): *Attempt on systematization of land consolidation approaches in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2006, p. 157.

second stage.⁴⁸⁰ An EIA is always carried out in all types of land consolidation projects when a plan of public facilities is prepared but not in small projects without change in land use.

For each land consolidation project, a “Body of Participants” comprising the landowners in the project area is legally established after the initiation of the project is approved by the Land Consolidation Authority. The Body elects a “Board of the Body of Participants” who is the acting institution of the Body.⁴⁸¹ There is a large variation in the length of land consolidation projects in Germany depending on which type is applied and also on the objectives in the specific projects. Often delays are caused by appeals to other involved authorities (e.g. nature protection authorities and sometimes even to the Constitution Court). For this reason some projects can take 10-15 years while a project of the same type may take four years if there are no complications.

Since the 1970s, the focus of implementing land consolidation in Germany has shifted from a specific agricultural farm-focused instrument to an instrument that is likely to cover public demand in land and solve land use conflicts.⁴⁸² Over the last decades objectives have shifted from agricultural development and infrastructure projects to nature protection and land consolidation today is often used as a tool for integrated rural development where several aims are pursued at the same time. Each of the five land consolidation instruments defined by the Land Consolidation Act has its own specific objectives.

Land consolidation is funded as support measures under the RDP at the *Länder* level. In 2002, around 7,000 land consolidation projects were under implementation in Germany covering in total 3.1 million ha.⁴⁸³ In recent years the volume of comprehensive land consolidation projects tended to decrease while the volume of the simplified land consolidation projects tended to increase. There are no immediately available data on the volume and number of projects implemented in the Eastern German *Länder* since 1990.⁴⁸⁴

⁴⁸⁰ Interview with Joachim Thomas in September 2014.

⁴⁸¹ Thomas, J. (2014): *Safeguarding real property rights and rational use by conflicting private and public interests – The German approach*. Geodetski Vestnik Vol. 58, No. 4/2014, p. 534.

⁴⁸² Drees, A. and Sünderhauf, R. (2006): *Land consolidation as a tool for flood prevention*. Paper for FIG congress in Munich, p. 6 and Thomas, J. (2006). *Attempt on systematization of land consolidation approaches in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2006, p. 156.

⁴⁸³ Thomas, J. (2004): *Modern land consolidation – recent trends on land consolidation in Germany*. Paper from FIG symposium on modern land consolidation, Volvic, France p. 6.

⁴⁸⁴ Email from Joachim Thomas in September 2014.

As mentioned, land banking is applied by the land consolidation authorities in connection with land consolidation where land from private owners is purchased by the land consolidation authorities before the project and sold again in it. The state agricultural land in Eastern Germany administrated by BVVG is not available for land consolidation projects except when land consolidation is applied in connection with important public projects such as new highway or nature restoration projects.⁴⁸⁵

7.4.6 LITHUANIA

Land restitution in Lithuania resulted in a complete breakup of the large-scale collective and state farms during the Soviet era. According to the most recent data (2011), the average agricultural holding size is 5.3 ha and the average size of agricultural parcels is 2.9 ha.⁴⁸⁶ Thus, the average number of parcels per holding is around 1.8. In 2005, 53 percent of the total UAA was used through lease agreements.⁴⁸⁷ Farm structures are dominated by a mix of large corporate farms and medium-to-large family farms. Fragmentation of both landownership and land use exists at a medium level.⁴⁸⁸

Lithuania received extensive international technical assistance for the development of the national land consolidation programme during 2000-2010. The first small land consolidation pilot project, the “Dotnuva project”, was carried out during 2000-2002 with technical assistance from the Land Consolidation Unit of the Danish Ministry of Food, Agriculture and Fisheries and was funded by Danish development funds. The objective was to focus on improving the local agricultural structures through the reduction of fragmentation and enlargement of farms. The pilot area was 392 ha with 79 private landowners. Of these, 19 landowners participated in the project and 86 ha changed owner in the voluntary process.⁴⁸⁹

In a second Danish-Lithuanian project “Land consolidation: a tool for sustainable rural development”, implemented during 2002-2004, the scope was wider. Three pilots were implemented in three different counties with the aim of integrating

⁴⁸⁵ Interview with Joachim Thomas in September 2014.

⁴⁸⁶ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 5-7.

⁴⁸⁷ Swinnen, J. and Vranken, L. (2009): *Land and EU accession – Review of transitional restrictions by new member states on the acquisition of agricultural real estate*. Centre for European Policy (CEPS), p. 16.

⁴⁸⁸ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁴⁸⁹ Hartvigsen, M. (2004): *Danish – Lithuanian land consolidation pilot projects in Lithuania*. Paper for FAO Land Bank workshop in Tonder, Denmark and Hartvigsen, M. (2006): *Land consolidation in Central and Eastern European Countries*. Paper for FIG Congress, Munich, p. 9.

land consolidation with local needs for rural development. The project provided input to the development of the legal framework for land consolidation.



Harvest of sugar beets in Dotnuva land consolidation pilot area in autumn 2000 (Lithuania).

The project “Institutional, organizational and legal framework for the lease and sale of state-owned agricultural land in the Republic of Lithuania” was implemented during 2004 by BVVG of Germany. The project provided technical assistance to the management of state agricultural land, including the linkage to land consolidation.⁴⁹⁰

In 2006, the Dutch-funded project “Methodological guidance to impact assessment in land consolidation process” was carried out by DLG of the Netherlands. The project facilitated the preparation of a manual on EIA in relation to land consolidation and developed procedures for conducting cost-benefit analysis in land consolidation projects.⁴⁹¹

⁴⁹⁰ BVVG. (2004): *Institutional, organizational and legal framework for the lease and sale of state owned agricultural land in the Republic of Lithuania – Final Report*. EU Twinning Light Project.

⁴⁹¹ DLG and Ministry of Agriculture Lithuania / National Land Service. (2006): *The manual on environmental impact assessment in relation to land consolidation* and Daugaliene, V.

FAO provided assistance during 2005-2007 through the project “Support to the preparation of an operational land consolidation system in Lithuania”. The project had two main components: i) preparation of a proposal for a national land consolidation strategy; and ii) capacity building in land consolidation.⁴⁹² The final version of the national land consolidation strategy was adopted by the Government in January 2008 and the land consolidation specialists who implemented the first 14 projects were trained during the project.

Finally, in 2009, the project “Lithuanian land fund study” was carried out by VHL and DLG of the Netherlands. The situation relating to state land management was analysed and proposals made for a State Land Fund.⁴⁹³ The State Land Fund was established in August 2010.

The legal framework for land consolidation was adopted as chapter IX in the Law on Land in January 2004. The legal provisions draw on the experiences from the two pilot projects during 2000-2004. The latest amendment to the law was adopted in July 2010. In addition, land consolidation is regulated by the Government Resolution no. 1824 of 15 December 2010.⁴⁹⁴

The national land consolidation strategy has embedded the land consolidation instrument in the overall land policy of the country and has since guided the development of the land consolidation instrument. A revision is foreseen in 2015.

Unlike the other Central and Eastern countries with ongoing land consolidation programmes, Lithuania has chosen to apply land consolidation in a completely voluntary approach. Where at least five landowners representing at least 100 ha in the proposed project area are interested, they can apply to the State Land Fund for a land consolidation project.⁴⁹⁵ The State Land Fund is then obliged to organize a meeting for the landowners in the proposed project area in order to further investigate the need and interest for land consolidation. During the meeting, the preliminary project area is decided.⁴⁹⁶ Within one month after the meeting, the landowners are requested to sign preliminary agreements whereby they agree to participate in the project without knowing the outcome of it (i.e. as would be shown on the re-allotment plan) and to commit to cover part of the costs if they

and Leimontaite, G. (2008): *Land consolidation and its nearest future in Lithuania*. Paper for FAO regional land consolidation workshop in Prague.

⁴⁹² FAO. (2006): *Support to the preparation of an operational land consolidation system in Lithuania (TCP/LIT/3101)*. Unpublished project document.

⁴⁹³ Van Holst, F. (Ed.). (2009): *Lithuanian Land Fund*. Study prepared by VHL and DLG (Netherlands).

⁴⁹⁴ Interview with Jurgita Augutiene in May 2014.

⁴⁹⁵ Law on Land (2010), chapter IV.

⁴⁹⁶ Daugaliene, V. and Leimontaite, G. (2008): *Land consolidation and its nearest future in Lithuania*. Paper for FAO regional land consolidation workshop in Prague.

later withdraw from the project (in such a case the costs are not covered by the RDP). A private surveying company with experts having licenses for land consolidation works is selected after a tender process. Land valuation is carried out by a licensed valuer and the re-allotment plan is then built up by experts of the private surveying company, sometimes together with the local branch of the State Land Fund, and in close cooperation with the landowners who have indicated their interest in participating.

The budget of the project is approved based on the preliminary agreements of the landowners and it is impossible to include new landowners during the process.⁴⁹⁷ The negotiated re-allotment plan is presented at a public meeting at which the participants are invited and the plan is formally approved by the National Land Service.⁴⁹⁸ The first 14 projects that started under the national programme in 2006 had a duration of two to three years. Projects started in 2011 and 2013 are on average expected to have the same duration time. Lithuania has introduced a license system for land consolidation works and, by 2014, 114 experts had been licensed.⁴⁹⁹

According to article 2 of the Law on Land, the objective of land consolidation in Lithuania is to: i) increase the size of land parcels; ii) form rational agricultural land holdings and improve their structure; and iii) create the required rural infrastructure. Thus, the main goal of land consolidation is to improve the structure of agricultural holdings as well as to be a tool for local rural development.⁵⁰⁰

An EIA is conducted as part of the land consolidation procedure.⁵⁰¹ As mentioned, the EIA procedure in relation to land consolidation was prepared as part of a Dutch-Lithuanian project during 2005-2006. An EIA is carried out as a simple screening for environmental impact as the land use is seldom changed as a result of the projects and therefore the impact is limited.⁵⁰²

In the first wave of projects implemented during 2005-2008, it was the intention to integrate the land consolidation project with activities for local rural

⁴⁹⁷ Pasakarnis, G. et al. (2013): *Factors influencing land consolidation success: Lessons learned in Lithuania*. In Hepperle, E. et al. (Edt.): Land Management, Potential, Problems and Stumbling Blocks. Hochschulverlag.

⁴⁹⁸ Interview with Audrius Petkevicius in April 2014.

⁴⁹⁹ Interview with Jurgita Augutiene in May 2014.

⁵⁰⁰ National Land Service under the Ministry of Agriculture. (2008): *National Land Service under the Ministry of Agriculture*. Information booklet, p. 13.

⁵⁰¹ Pasakarnis, G. et al. (2013): *Factors influencing land consolidation success: Lessons learned in Lithuania*. In Hepperle, E. et al. (Edt.): Land Management, Potential, Problems and Stumbling Blocks. Hochschulverlag, p. 128.

⁵⁰² Interview with Audrius Petkevicius in April 2014.

development (e.g. new access roads, renovation of drainage systems etc.). However, the available budget covered only the costs of the re-allotment planning, land valuation, cadastral surveying and registration of land transactions and did not cover the local rural development projects.⁵⁰³ This, in principle, is still the situation with the ongoing projects. However, during recent years local communities and municipalities have become better at coordinating the land consolidation projects with their local development planning and also at attracting additional funding (e.g. from the Leader axis of the RDP).

The land consolidation instrument has so far not been used as an instrument for the implementation of larger regional and national infrastructure projects and also not as a tool for nature restoration, afforestation or similar objectives. According to the rules for the land consolidation measure under the RDP for 2007-2013, land consolidation projects cannot be carried out in Natura 2000 areas. This is limiting the use of the land consolidation instrument for nature and environmental restoration.⁵⁰⁴

The Ministry of Agriculture has overall responsibility for the legal framework and funding under the RDP. The organization of land consolidation works changed substantially in 2010 when the county administration was abolished and the State Land Fund was established through the re-organization of the former State Land Survey Institute. The land fund is organized as a state enterprise and the land consolidation projects are managed by the land fund. The National Land Service under the Ministry of Agriculture approves the area to be included in the project and also gives the formal approval of the negotiated re-allotment plan. Projects are prepared by the local branch office of the State Land Fund, and with the fieldwork being carried out by private surveying companies.

Land consolidation projects are funded under the RDP with 75 percent of funding from the EU and 25 percent from national funding. All costs are covered for the participating landowners. The first 14 land consolidation projects were implemented during 2005-2008 and were funded under the Single Programming Document for 2004-2006. These projects had an average project area of 300 ha and an average of 45 participating landowners.⁵⁰⁵ The total project area in these projects was 4,838 ha and a total of 383 landowners participated. The total number of land parcels in the project areas was reduced from 731 to 512 as an outcome of the projects. More projects were expected to be implemented in the

⁵⁰³ Pasakarnis, G. et al. (2013): *Factors influencing land consolidation success: Lessons learned in Lithuania*. In Hepperle, E. et al. (Edt.): *Land Management, Potential, Problems and Stumbling Blocks*. Hochschulverlag.

⁵⁰⁴ Email from Giedrius Pasakarnis in May 2014.

⁵⁰⁵ Daugaliene, V. and Leimontaitė, G. (2008): *Land consolidation and its nearest future in Lithuania*. Paper for FAO regional land consolidation workshop in Prague.

first round and the total budget for the first wave of projects was € 2.2 million but only € 0.76 million was actually used due to delays in start of the projects and a lack of awareness of the opportunities among the beneficiaries.

In 2011, 23 new projects started and an additional 16 projects began in 2013, all funded under the RDP for 2007-2013.⁵⁰⁶ The available budget for land consolidation under the RDP was € 16.16 million. Of this, € 5 million was allocated for the 23 projects of 2011 and € 5.5 million for projects of 2013, for a total of € 10.5 million.⁵⁰⁷ The first of these projects were being finalized in the summer of 2014 and all projects should be completed by mid-2015. The total approved project area in the 39 ongoing projects is about 48,000 ha and the number of expected participating landowners is around 5,800.⁵⁰⁸

It is expected that around 400,000 ha of state land will remain unprivatized after the complete finalization of the land reform process.⁵⁰⁹ Most of the state land reserve will be agricultural land in rural areas, often divided into parcels that are small, poorly shaped and fragmented. The state agricultural land is managed by the National Land Service (NLS) under the Ministry of Agriculture. During the first wave of land consolidation projects in 2005-2008, it was the intention to involve the state land in the projects areas. This was, however, not possible according to the legislation at the time.⁵¹⁰ The State Land Fund (SLF) was established in 2010, and the procedures now are for state agricultural land in the land consolidation project area to be transferred from NLS to SLF during the project with the purpose of including the state land in the project. According to the legislation, state land cannot be sold as part of the land consolidation project but it can be exchanged with private land. Thus, the state land is used to increase land mobility in the project and is also being consolidated.⁵¹¹

Lithuania developed a national land consolidation programme in less than six years, during 2000-2006, from the first small pilot project to the adoption of the legal framework and the start of the first regular projects. The first round of projects faced several problems and led to the amendment of the legal framework in 2010.

⁵⁰⁶ Leimontaite, G. (2013): *Land consolidation in EU rural development policy in Lithuania*. Powerpoint presentation for FAO land consolidation workshop in Skopje.

⁵⁰⁷ Ibid.

⁵⁰⁸ Augutiene, J. (2014): *Lithuanian experiences with a national land consolidation program 2005-2013*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.

⁵⁰⁹ Ministry of Agriculture (2007): *National Land Consolidation Strategy*.

⁵¹⁰ Pasakarnis, G. et al. (2012): *Rural development and challenges establishing sustainable land use in Eastern European countries*. Land Use Policy 30 (2013), p. 705.

⁵¹¹ Interview with Audrius Petkevicius in April 2014.

Land consolidation in Lithuania is applied in a voluntary approach and is primarily focused on the improvement of agricultural structures through the reduction of fragmentation and the enlargement of farms. The multi-purpose potential of the instrument has not been realized.

A rigid budget system (as a consequence of funding under the RDP), and procedures which make it difficult to include new landowners as the re-allotment planning is progressing, have hampered the outcome of the projects.

State land is exchanged with private agricultural land and is used to increase land mobility in the projects as well as the consolidation of state land. The option to privatize state land through land consolidation projects is not used.

7.4.7 SERBIA

Serbia has a long tradition for land consolidation. In 1836, the Habsburg monarchy adopted the Law on Land Consolidation, which was applied in Vojvodina from 1860.⁵¹² A land consolidation law that was originally adopted for the regions of Croatia, Slavonia and Dalmatia in 1902 was applied to Serbia in 1925 following the creation of Yugoslavia. Land consolidation projects were implemented according to this law until 1941.

The collectivization process had largely failed in Yugoslavia after the Second World War and, in 1992, 74 percent of the agricultural land in Serbia was owned and farmed by private individual family farms.⁵¹³ Land consolidation projects began again in the Autonomous Province of Vojvodina from 1956 and were carried out according to the then new Croatian land consolidation law from 1954 until 1974 when the parliament of Vojvodina adopted its own similar law. Land consolidation started in Central Serbia only when land consolidation legislation was adopted in 1981 by the Socialist Republic of Serbia as part of the new Law on Agricultural Land.⁵¹⁴ During the Yugoslavia era, the objective was often to consolidate the socially-owned farms (SOEs) and land consolidation (*komasacija*) was often applied in a top-down procedure in connection with large-scale agricultural development projects. In addition, forced parcel exchange between SOEs and private landowners (*arrondacija*) was applied.

⁵¹² Milicevic, D. et al. (2013): *The history of land consolidation in Serbia*. Paper prepared for the First International Symposium on Agricultural Engineering, 4-6 October 2013, Belgrade, Serbia, p. 16-17.

⁵¹³ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 28-30 and 32-33.

⁵¹⁴ Interview with Stevan Marosan in July 2014.

During 1955-1969, an average of about 10,000 ha were consolidated annually. Between 1970 and 1990, 40,000 ha were consolidated on average annually with the peak being in 1979 with almost 120,000 ha.⁵¹⁵ Land consolidation using the pre-war *komasacija* approach stopped completely in 1998 because of the break up of Yugoslavia and the wars in the region and also because of the high costs, which exceeded the value of the land.⁵¹⁶

In many cases, land restitution in Serbia has had a negative impact on land fragmentation. In 2012, the average size of a family farm was around 4.8 ha including land leased in and leased out, and on average it was divided in five to six parcels.⁵¹⁷ The average size of agricultural parcels owned by family farms is 0.34 ha and the average size of corporate farms is 210 ha. Fragmentation of agricultural land is continuing through inheritance.

The farm structure is dualistic. Today, large corporate farms own 15 percent of the arable land, while the remaining 85 percent is owned by family farms.⁵¹⁸ Excessive fragmentation of both landownership and land use exists, not only as a result of the recent restitution process but more related to the farm structure prior to the Second World War, which still exists to a large degree.⁵¹⁹

Two international projects have provided technical assistance on land consolidation in Serbia during the last decade. In 2003 FAO supported a pre-feasibility study, which laid the foundation for a subsequent FAO land consolidation project.⁵²⁰ During 2006-2008, FAO provided assistance through the project "Support to the preparation of a national land consolidation strategy and a land consolidation pilot project in Serbia".⁵²¹ In the FAO project, a voluntary land consolidation pilot project was implemented in Velika Mostanica, a village close to Belgrade. A re-allotment plan was built up after consultations with all landowners available in the village and land consolidation was integrated with local rural development through the elaboration of a community development

⁵¹⁵ Haldrup, N. et al. (2003): *Land consolidation and land tenure assessment mission, Republic of Serbia – Pre-feasibility study*. FAO, p. 18.

⁵¹⁶ Marosan, S. and Knezevic, Z. (2005): *The state of land management and land consolidation in Serbia and Montenegro*. Paper prepared for FAO regional land consolidation workshop in Prague, p. 4.

⁵¹⁷ Email from Zoran Knezevic in January 2013.

⁵¹⁸ Marosan, M. (2012): *Identification of main legal issues important for successful land consolidation in Serbia*. Master thesis at KTH, Stockholm.

⁵¹⁹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁵²⁰ Haldrup, N. et al. (2003): *Land consolidation and land tenure assessment mission, Republic of Serbia – Pre-feasibility study*. FAO.

⁵²¹ FAO (2005): *Support to preparation of a national land consolidation strategy and a land consolidation pilot project in Serbia* (TCP/YUG/3001). Unpublished project document.

plan for the pilot village.⁵²² Also as part of the FAO project, the Ministry of Agriculture and Environmental Protection (MoAEP) was supported in the development of a draft national land consolidation strategy. The strategy has since guided the Government policy related to land consolidation even though the strategy has not been formally adopted.⁵²³ The strategy identified three appropriate land consolidation models: i) comprehensive compulsory consolidation; ii) consolidation as part of investment projects; and iii) simple voluntary consolidation.

During 2013-2016, GIZ is implementing phase 2 of the project “Strengthening Municipal Land Management” with a strong land consolidation component. The project is funded by EU IPA funds and bilateral German development funds. Land consolidation pilots in seven villages in Central and Eastern Serbia have been started, covering in total around 4,500 ha.⁵²⁴ In the pilots, both voluntary and compulsory approaches will be further developed and tested.⁵²⁵ The project will assist the Directorate for Agricultural Land under the MoAEP in fine-tuning the land consolidation procedures. In addition, the project will address problems with abandoned land and state land management and will provide recommendations for the revision of the legal framework related to land management and land consolidation where necessary.

Land consolidation in Serbia is regulated by the Law on Agricultural Land, which was last amended in 2009. The law provides for three types of land consolidation in line with the elaborated strategy: i) compulsory land consolidation project; ii) voluntary land consolidation; and iii) land consolidation as part of investment projects. However, all projects except two implemented since 2007 have used the compulsory approach.⁵²⁶ When two-thirds of the landowners in an area agree, compulsory projects can be initiated. When the draft re-allotment plan is ready, the landowners approve the plan by their signature. They can object against the plan by not signing and then the municipal land consolidation commission continues to lead the negotiations to find a solution. If landowners still do not agree with the plan, they have the opportunity to appeal to MoAEP.⁵²⁷

⁵²² Marosan, S. et al. (2007): *Land consolidation and rural development in Serbia*. Paper prepared for FAO regional land consolidation workshop in Prague.

⁵²³ Ministry of Agriculture and Environmental Protection. (2007): *Land consolidation strategy – Republic of Serbia – final draft* and Milicevic, D. et al. (2013): *The history of land consolidation in Serbia*. Paper prepared for the First International Symposium on Agricultural Engineering, 4-6 October 2013, Belgrade, Serbia, p. 21.

⁵²⁴ Pavlovic, T. (2014): *The importance of land consolidation in Serbia*. Powerpoint presentation for Landnet / FAO regional land consolidation conference in Belgrade, Serbia.

⁵²⁵ Personal comment by GIZ lead consultant Joachim Thomas in June 2014.

⁵²⁶ Interview with Zoran Knezevic in June 2014.

⁵²⁷ Interview with Stevan Marosan in July 2014.

The objective of land consolidation in Serbia is to address the structural problems in agriculture with excessive land fragmentation and small farm sizes. In this way, the aim of the modern Serbian land consolidation approach remains the same as it was for the *komasacija* projects during the Yugoslavia era but without being combined with large-scale agricultural development projects (e.g. land reclamation, irrigation, new field roads etc.). A community development plan for the pilot village of the FAO project was successfully prepared but in the ongoing land consolidation projects there are no specific links to local rural development.⁵²⁸ So far, land consolidation is not applied as part of the construction of new highways or railways or in connection with nature or environmental projects. In autumn 2014 a working group preparing the new Law on Agricultural Land discussed whether to make it obligatory for the institution responsible for the infrastructure project to conduct and fund a land consolidation project when large infrastructure projects are implemented. No EIA procedures have been established for land consolidation projects.

The Directorate for Agricultural Land under the Ministry of Agriculture and Environmental Protection is responsible for running the land consolidation programme. Since 2007, a total of 50 land consolidation projects have been started. About 150,000 ha have been included and 90,000 ha in 30 projects have been finalized. The funding is already secured for new land consolidation projects covering about 9,000 ha in 2014 and 22,000 ha in 2015.⁵²⁹ The normal duration of the recent land consolidation projects is around three years.⁵³⁰ Serbia has not introduced a special license for land consolidation works, but only for cadastral surveying.

The projects that started after 2007 under the national land consolidation programme are funded by the state budget (with 50-75 percent) or the Autonomous Province of Vojvodina (with up to 50 percent) and by municipality budgets (with 25-50 percent). Some of the income from leasing out of state agricultural land is earmarked for the funding of land consolidation projects in accordance with the Law on Agricultural Land.

In 2008 the state was the owner of around 400,000 ha of agricultural land.⁵³¹ It is expected that 200,000 to 250,000 ha will remain in state ownership after the finalization of the restitution process.⁵³² State agricultural land can be exchanged

⁵²⁸ Ibid.

⁵²⁹ Interview with Zoran Knezevic in June 2014.

⁵³⁰ Email from Mladen Soskic in July 2014.

⁵³¹ Dells, K. (2008): *Management and privatization of state-owned agricultural land*. Paper for FAO-FIG-CNG International Seminar on State and Public Sector Land Management, Verona, Italy.

⁵³² Marosan, S. et al. (2014): *Value framework for evaluation of land banks / funds*. Geodetski Vestnik Vol. 58, No. 3, 575-576.

with privately-owned land in land consolidation projects but it is not possible to sell (privatize) state agricultural land in the projects until the land restitution process has been fully completed.⁵³³ The working group established for amending the Law on Agricultural Land is currently discussing whether to recommend the introduction of a state land bank. However, it is not yet clear what the outcome will be.⁵³⁴

Serbia was granted the status of EU candidate country in March 2012 and is the first non-EU member country that has started a national land consolidation programme from 2007 and onwards. In the last decade, Serbia has modernized the land consolidation instrument that was used in the Yugoslavia era as was previously done in Slovenia (section 7.4.2). The approach used is still compulsory and many of the procedures remain the same. Currently, the procedures are being fine-tuned and further developed with assistance from the GIZ project being implemented during 2013-2016. Land consolidation is so far not integrated with local rural development and hence mainly focused on improving the agricultural structures. In the future, there appears to be a need to introduce an EIA procedure.

7.4.8 DISCUSSIONS AND LESSONS LEARNED

Seven Central and Eastern European countries have already established ongoing land consolidation programmes that meet the five minimum requirements set out in section 7.2. Two countries, Poland and Slovenia, already had ongoing programmes when the transition began with the fall of the Berlin Wall in 1989 and most of the agricultural land in these countries remained in private ownership and use during the four decades of collectivization after the Second World War. In three countries (Czech Republic, Slovakia and Eastern Germany), land consolidation instruments and programmes were established in the early 1990s together with the launch of land reform. In Lithuania, a land consolidation programme was launched in 2006 after land reform with restitution to former owners was almost finalized. Finally, in Serbia a land consolidation programme was re-established in 2007 after modernization of the land consolidation instrument (*komasacija*) applied during the Yugoslavia era, similar to what had taken place in Slovenia in the 1990s. All seven countries have a vast amount of agricultural land owned by the state after the land reforms are almost finalized. However, none of the countries have introduced land banks to support the land consolidation instruments, as is the case in many Western European countries including the Netherlands, Germany and Denmark see (section 7.3.2).

The driving factors behind the introduction of land consolidation in the seven countries can be divided into two sub-categories. In Poland, Slovenia, Lithuania

⁵³³ Interview with Zoran Knezevic in June 2014.

⁵³⁴ Interview with Stevan Marosan in July 2014.

and Serbia, land consolidation was mainly introduced as an instrument to address the structural problems in agriculture with fragmentation of both landownership and land use and small average sizes of agricultural holdings and farms, and thus as a tool to improve productivity and competitiveness of farms. In the Czech Republic, Slovakia and also to some extent in Eastern Germany, land consolidation has not been focused on improving the land use conditions but instead has focused more on addressing the fragmentation of landownership integrated with the land reform process and the building up of land administration systems (i.e. cadastre and land registration). Hence, in the Czech Republic, half the budget of land consolidation projects is spent on land surveying and improving land registration. In these three countries, an additional driving factor has been the wish to establish a land management tool for improving nature, environment and landscape as well as local agricultural and rural development needs, e.g. new field roads and access to parcels that were left without road access after the land reform.

The Czech Republic, Slovakia and Eastern Germany today have good experiences in using land consolidation as a tool for local rural development through the implementation of a plan of common facilities (i.e. community development plan) as an integrated part of the land consolidation process. Slovenia and Poland have a long tradition for integrating land consolidation with agricultural development (e.g. construction or renewal of new field roads) but they have so far not applied land consolidation in an integrated rural development approach and are only occasionally using it as a tool for the implementation of nature and environmental protection and restoration. In Lithuania, few steps have been taken towards integrating land consolidation with local agricultural development needs while in Serbia the focus is first and foremost on the reduction of land fragmentation and in this way the approach to land consolidation in Serbia is narrower than that used during the Yugoslavia era.

In Poland and Slovenia, which had land consolidation programmes during the socialist era before 1989, the preparation for EU accession (granted to both countries in 2004) has contributed to a development that has made land consolidation more gentle towards nature and environment. During the decades after the Second World War, land consolidation in both countries often led to loss in biodiversity and landscape degradation. The same was true during that period for Western European countries. EU accession for the six member countries has led to the introduction of safeguards against the negative impact on nature and environment in the form of EIA screening of land consolidation projects. It also appears that EU membership is turning the land consolidation instruments in the countries in a more multi-purpose direction. This is especially the case for Poland and Slovenia although it is a slow process.

For the six countries that have joined the EU, the membership and preparation for it opened the potential for funding of the land consolidation programmes as measures under the national rural development programmes and they have all used this opportunity. In Eastern Germany, land consolidation was funded under the RDP from 2000. The Czech Republic and Slovakia were the only accession countries to include land consolidation in the SAPARD pre-accession rural development programme during 2002-2004 and they have continued to use RDP funding after accession. In Lithuania, RDP funding began with the first land consolidation projects under the national land consolidation programme in 2006. Serbia is the only non-EU member country with a national land consolidation programme. As an EU candidate country, Serbia is still not directly eligible for co-financing of a land consolidation measure under the RDP and the land consolidation programme is fully funded by the budget of central and local governments.

Six countries (Poland, Slovenia, Czech Republic, Slovakia, Serbia and Eastern Germany), apply land consolidation in a compulsory approach where the projects are approved administratively when the majority of the landowners in the project area accept the project. In Eastern Germany voluntary projects are implemented (i.e. voluntary land exchange) in addition to the compulsory approach. Lithuania is the only country where land consolidation is applied only in a voluntary approach. Slovenia introduced the option for voluntary projects in the legal framework in 2011 but this option has not yet been used. Figure 7.3 shows the land consolidation approach in the countries with ongoing programmes.

The analysis shows that there appears to be a clear linkage between the land consolidation approach applied in the seven countries and the historical circumstances under which land consolidation was introduced in the countries. In Poland, Slovenia and Serbia, following the Second World War, land consolidation was inspired by the German land consolidation tradition with a compulsory approach and integration with large-scale agricultural development. Serbia is using exclusively the compulsory approach although it has experimented with a voluntary approach at the level of pilots.

These three countries have struggled with what was often perceived by the rural population as bad experiences of the pre-1989 land consolidation programme. In Eastern Germany, land consolidation was re-introduced after the reunification with extensive technical assistance from land consolidation experts in Western Germany. In the Czech Republic and Slovakia, land consolidation was started from the beginning in the early 1990s. There were no donor-funded land consolidation projects but technical assistance was provided through cooperation with land consolidation authorities in Germany (mainly Bavaria) and Austria and the land consolidation instruments in these two countries are today strongly inspired by

the German model (section 3.2). In Lithuania, land consolidation was introduced mainly with technical assistance from Danish land consolidation experts where land consolidation is implemented in a voluntary approach (section 3.2). Models have not been copied from Western European countries but instead were tailor-made to the specific circumstances in the countries but with significant inspiration.



Figure 7.3: Land consolidation approach in countries with ongoing land consolidation programmes.

The experiences of the seven countries show that it may not necessarily have to be a lengthy process to develop operational land consolidation programmes even with no prior experience in land consolidation. The Czech Republic and Slovakia managed to have operational land consolidation programmes after a few years of preparation in the early 1990s and Lithuania took less than six years to go from the initiation of the first very small pilot project in 2000, through a second round of pilots and the adoption of legal framework, to the beginning of the first projects

under the national programme in 2006. The experiences show, however, also that everything does not run perfectly from day one and adjustments of the legal framework and procedures can be expected to be necessary after a few years of gaining field experiences. Thus, Lithuania amended the legislation and procedures in 2010 and Serbia is expected to do the same as an outcome of the ongoing GIZ project. The countries that do not yet have a land consolidation programme could certainly learn from these experiences.

It is interesting to see that in all seven countries with land consolidation programmes, the Ministry of Agriculture is the responsible lead agency for land consolidation and that the land consolidation instruments are embedded in the land policy of the countries, mainly through the rural development strategies and programmes.

In all six countries with a compulsory land consolidation approach (figure 7.3), the participants in principle receive land of the same value as the land with which they joined the re-allotment planning. In Poland, a difference of within \pm three percent is accepted. The outcome of the projects is the consolidation of the parcels for each owner but the total number of owners remains basically the same. This means that the potential to use the land consolidation instruments to facilitate structural development for the agricultural holdings involved in commercial farming is not reached. Landowners and farmers interested in purchasing additional agricultural land and increasing the size of agricultural holdings are required to separately buy land parcels from private owners willing to sell at local land market conditions as sale and purchase between the participants are usually not facilitated by the land consolidation professionals managing the projects. In most Central and Eastern European countries the structural problems in agriculture are both land fragmentation and small agricultural holding and farm sizes. Land consolidation instruments in Poland, Slovenia, Czech Republic, Slovakia and Serbia have a future potential for also addressing the size problem. In Lithuania, selling and buying are facilitated in the land consolidation process and the enlargement of holdings and farms is an objective pursued through the projects.

The seven countries with ongoing land consolidation programmes all have a considerable amount of state agricultural land after they finalized their land reform. This land stock is usually managed by state land funds, which were often established in the early 1990s as part of the land reform process. In Slovenia, around nine percent of the total agricultural land is possessed by the state land fund (section 7.4.2). In Slovakia, the same figure is seven percent plus as much as 23 percent of the total agricultural land with unknown ownership, which is also managed by the state land fund (section 7.4.4). In Lithuania, it is expected that 400,000 ha will remain in state ownership after complete finalization of land restitution (section 7.4.6).

The study shows that none of the seven countries use the available state land as a revolving state land bank in connection with land consolidation instruments as is the case in Western European countries, e.g. Netherlands, Germany and Denmark (see section 7.3.2). Instead, state land represented by the state land fund participates in the land consolidation projects almost like the private landowners and, as an outcome of the project, the state land is also consolidated in fewer parcels. The availability of agricultural land from a state land bank is especially important in land consolidation projects with a voluntary approach and where land consolidation is applied together with projects requiring public areas (e.g. for infrastructure or nature restoration) where landowners are compensated with other land, because it increases the land mobility in the projects and thus increases the chances for successful implementation.⁵³⁵

The possible synergies between land consolidation and land banking instruments in a Central and Eastern European context have been discussed at several regional land consolidation conferences and workshops⁵³⁶ during the last decade (see section 7.7). However, the conclusion from this current study is that land banking in connection with land consolidation projects has so far largely failed and the potential remains unused. There are a number of reasons for this and some of them are country specific. However, a general explanation appears to be related to the organization of state land management and land consolidation in the countries. Often different public institutions are responsible for the land consolidation programmes and the management of the state land fund and efforts are often not coordinated. Also the short-term interests of the involved institutions may be different. On the one hand, the land consolidation agency may be more interested in the sale (privatization) of state land because it increases land mobility and improves the outcome of land consolidation projects while, on the other hand, the state land fund may be more interested in leasing out the state land and in this way “staying in business”. Another general explanation of the absence of land banks in support of land consolidation is that state land and its sale is often, with good reason, an issue that is highly sensitive where there is weak governance in land tenure and administration.⁵³⁷ Many countries of the region have adopted legislation that allows sale of state agricultural land only through public auctions to reduce the danger of corruption. A side-effect is that it is difficult to include the sale of state land in land consolidation projects.

⁵³⁵ Hartvigsen, M. (2014a): *Land mobility in a Central and Eastern European land consolidation context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014.

⁵³⁶ E.g. at FAO and LANDNET workshops in 2004, 2008, 2010 and 2011. Proceedings are available at the FAO REU website: <http://www.fao.org/europe/activities/land-tenure/landconsee/en/>

⁵³⁷ FAO. (2007): *Good governance in land tenure and administration*. FAO Land Tenure Studies 9, p. 12-20.

This said, there are good examples outside of land consolidation of how the privatization of state agricultural land has been used to strengthen the agricultural structures. In Poland, during the privatization of state agricultural land, APA (the state land fund) has given preference for sale at reduced prices (i.e. below usual market price) to eligible groups, including commercial family farms in the area of the land subject to privatization.⁵³⁸ Also in Eastern Germany, state land has been sold at reduced prices to local farmers.

Furthermore in Eastern Germany, land consolidation was sometimes used in parallel with the restitution process to give claimants consolidated land and not the land in original boundaries which was often in fragmented parcels (section 7.4.5). This is in line with UNECE recommendations to link land restitution with land consolidation where appropriate and possible.⁵³⁹ Keeping this good experience in mind, it could perhaps also be expected that land consolidation would be applied in connection with the land privatization process in countries where state land has been privatized through sale, as in the case of Poland. However, this has so far not been the case and the potential has not been used to employ the land consolidation instruments for privatization of state land in countries where this is the political aim. A conclusion is for the future consideration of the development of the existing state land funds into revolving land banks which, when integrated with the land consolidation process, could use the state land as a land bank to increase land mobility and also to enlarge holdings and farms. This could allow for the privatization of state agricultural land in a targeted way, which would also result in improved agricultural structures as an alternative to the usual way of privatization through auctions.

7.5 EXPERIENCES WITH THE INTRODUCTION OF LAND CONSOLIDATION BUT NOT WITH ONGOING PROGRAMMES

A second category exists where land consolidation instruments have been introduced in various ways but there is not yet a land consolidation programme that meets the five minimum requirements as defined in section 7.2. There are large variations in this category as in some cases only the first small steps have been taken while in other cases an operational programme is close to being in existence. In some countries, such as Hungary, Estonia and Latvia, land consolidation pilots were implemented and technical assistance for land

⁵³⁸ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 16 and 19.

⁵³⁹ UNECE (2005): *Land administration in the UNECE region – Development trends and main principles*, p. 5.

consolidation was provided by donor-funded projects some 10-20 years ago in the 1990s without leading to a land consolidation programme.

This section analyses the experiences with land consolidation and land banking where land consolidation has been introduced but there is not yet an ongoing land consolidation programme and it discusses the lessons that can be learned from the experiences.

7.5.1 ESTONIA

Estonia had experience with land consolidation between 1926 and 1940. A Land Consolidation Law was adopted in 1926 and revised in 1937. In total, around 24,000 farms involving 475,000 ha were consolidated before the Second World War.⁵⁴⁰ Following the war, Estonia was annexed by the Soviet Union and all privately-owned agricultural land was nationalized without compensation during the collectivization process. Land reform in Estonia has resulted in a medium level of land fragmentation, both of landownership and land use.⁵⁴¹ The level of land fragmentation today is higher than it was in 1940.⁵⁴² In 2005, 54 percent of the total UAA was used through lease agreements.⁵⁴³

Land consolidation in Estonia was introduced after independence from the Soviet Union in 1991 through the adoption of the Land Readjustment Act in January 1995. The law passed the Parliament without any previous pilot projects or other field experiences. The law was inspired by the legal framework from 1926 and the experiences during 1926-1940.⁵⁴⁴

Land consolidation in the field was re-introduced in Estonia through the technical assistance project “Integrated drainage and land development pilot in Estonia”. The project was implemented during 1998-2001 by Arcadis and DLG of the Netherlands, together with the Estonian Ministry of Agriculture. The project was funded partly by the World Bank and partly by Dutch development funds.⁵⁴⁵ The project approach was fully integrated and compulsory, based on the Dutch land consolidation model (see section 7.3.2), and aimed at the same time to address

⁵⁴⁰ Jürgenson, E. (2014a): *Overview of land consolidation in Estonia*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.

⁵⁴¹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. *Land Use Policy* 36 (2014), p. 339.

⁵⁴² Jürgenson, E. (2014b): *land reform and land fragmentation in Estonia*. Paper for PhD course at Aalborg University, May 2014.

⁵⁴³ Swinnen, J. and Vranken, L. (2009): *Land and EU accession – Review of transitional restrictions by new member states on the acquisition of agricultural real estate*. Centre for European Policy (CEPS), p. 16.

⁵⁴⁴ Interview with Evelin Jürgenson in April 2014.

⁵⁴⁵ DLG and Arcadis. (2001b): *Integrated drainage and land development pilot in Estonia*. Project brochure.

agricultural structures and improve water management, rural roads and nature protection. The re-allotment procedure of the Land Readjustment Act was followed in four land consolidation pilot areas. Two of the pilots were fully implemented while the other two, which started in the middle of the project, were only partly completed. The concept of land consolidation in combination with drainage improvement was tested and the experience was positive.⁵⁴⁶

In addition to the pilot projects with Dutch support, 22 land consolidation projects were implemented in parallel, but without international technical assistance, during 1998-2001, also following the procedures of the 1995 Land Readjustment Act. In total 3,050 parcels participated.⁵⁴⁷ The projects were funded by a World Bank loan. The implementation of the projects was difficult and, in general, the results were not good.⁵⁴⁸

The projects exposed several shortcomings of the law, which is still in force. According to the law the municipalities are to take the lead in the implementation of land consolidation projects but they have little experience. In addition, the distribution of duties among institutions in the 1995 law is unclear. The law allows for land readjustment to be implemented in a compulsory approach when two-thirds of the involved landowners agree. It is the assessment of some Estonian experts that the law is outdated and needs to be revised.

After the Dutch pilots and the 22 nationally implemented land consolidation projects were finalized in 2001 and the available funds from the World Bank loan were spent, no land consolidation activities took place until 2010. This was mainly because of a lack of political interest and a belief that the land market would, by itself, solve the structural problems in agriculture. Furthermore, there has been little awareness of the benefits of a land consolidation instrument among decision-makers as well as among the beneficiaries, i.e. farmers, landowners and other rural stakeholders.⁵⁴⁹

From 2010 and onwards, there is a renewed interest in land consolidation in Estonia.⁵⁵⁰ This has been driven by the Estonian Land Board (i.e. cadastre agency), supported by the Estonian University of Life Sciences, while the Ministry of Agriculture has not given high priority to land consolidation. The Land Board has tried to create awareness of the need for a land consolidation instrument to deal

⁵⁴⁶ DLG and Arcadis. (2001a): *Integrated drainage and land development pilot in Estonia – Project completion report*, p. 13-14.

⁵⁴⁷ Jürgenson. E. (2014a): *Overview of land consolidation in Estonia*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.

⁵⁴⁸ Interview with Evelin Jürgenson in April 2014.

⁵⁴⁹ Email from Siim Maasikamäe in May 2014.

⁵⁵⁰ Interview with Siim Maasikamäe and Evelin Jürgenson in April 2014.

mainly with land fragmentation, solving the access problems that occurred during land reform, local rural development and large infrastructure projects. There is not yet sufficient political and administrative support for the revitalization and revision of the existing land consolidation instrument. In September and October 2013, study tours were organized to Finland and Denmark to learn of the land consolidation experiences and approaches in these countries. Experts from the Estonian Land Board, Ministry of Agriculture, State Forest Management Centre and municipalities participated in the study tours. In 2014, new steps were taken towards a national land consolidation programme, including through an analysis of the existing situation and legislation.

After completing the land reform, there will be around 60,000 ha of free state agricultural land.⁵⁵¹ There are currently no plans to introduce land banking.

7.5.2 LATVIA

Latvia had no experience with land consolidation before independence in 1991. During the Soviet era, all agricultural land was nationalized by the state. After independence, land reform resulted in a medium level of fragmentation, both of landownership and land use.⁵⁵² The rural land market has developed gradually, especially through more favourable conditions for agriculture since EU accession in 2004. A considerable structural development in Latvian agriculture is ongoing. In the period between 2003-2010, the number of agricultural holdings decreased by 36 percent and the average UAA per agricultural holding increased by 66 percent.⁵⁵³ The development of the land market, however, often leads to land fragmentation as the land purchased is not adjacent to the land already owned.⁵⁵⁴ Fragmentation also continues through inheritance.⁵⁵⁵

⁵⁵¹ Email from Evelin Jürgenson in May 2014.

⁵⁵² Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁵⁵³ Parsova, D. (2014b): *From pilot experiences to land consolidation framework: the Latvian experience*. Powerpoint presentation for Landnet / FAO regional land consolidation workshop in Belgrade, Serbia, in June 2014.

⁵⁵⁴ Platonova, D. and Jankava, A. (2011): *Research on the preconditions of land consolidation in rural districts*. Economic science for rural development no. 26, 2011, p. 175.

⁵⁵⁵ Parsova, V. and Kapostins, E. (2012): *Does land consolidation fit everywhere?* Paper from FIG Working Week in Rome, p. 2.

According to the most recent data (2012), the average size of agricultural land parcels, around 7.3 ha, is relatively large compared with other regional countries.⁵⁵⁶ In 2005, 24 percent of the total UAA was used through lease agreements. In 2012, 13 percent of the agricultural land was uncultivated.⁵⁵⁷

Land consolidation was first introduced through a small pilot project with a voluntary approach in Garsene municipality during 1998-1999. The background was an initiative among local stakeholders in the municipality to reduce land fragmentation after farmers in the Jekabpils region had been on a study tour to the Southern Jutland region in Denmark.⁵⁵⁸ The pilot project was carried out with technical assistance from the Land Consolidation Unit of the Danish Ministry of Food, Agriculture and Fisheries and was funded by Danish development funds. The objective was to introduce land consolidation with a focus on improving the local agricultural structures through reduction of fragmentation and enlargement of farms.

A second project “Land Exchange Project Gauja National Park” was carried out during 2000-2002, also with technical assistance from Denmark and funded by Danish bilateral development funds. Private landowners who had restituted land rights to forest land within the core protected areas of Gauja National Park were offered exchanges with state forest land outside the protected area.⁵⁵⁹

A land consolidation measure was included in the SAPARD rural development programme from 2000 (measure 1.3: Re-parceling).⁵⁶⁰ However, the measure was never applied and no projects were supported and land consolidation stopped in 2002 after the pilots. At the time there was no political support to continue as the majority in the Parliament believed that the normal land market would solve the structural problems in agriculture.⁵⁶¹

During recent years, Latvia has developed land consolidation legislation. The Law on Land Survey, adopted in September 2006, included land consolidation as a

⁵⁵⁶ Email from Daiga Parsova in December 2012.

⁵⁵⁷ Parsova, D. (2013): *Land abandonment and current policy initiatives on land mobility*. Powerpoint presentation held at FAO / LANDnet workshop in Skopje, The former Yugoslav Republic of Macedonia.

⁵⁵⁸ Danish Ministry of Food, Agriculture and Fisheries (1999): *Brief report on pilot project in land consolidation – Phase 2*.

⁵⁵⁹ Danish Ministry of Food, Agriculture and Fisheries (2002): *Land exchange project Gauja National Park Latvia – Completion report*.

⁵⁶⁰ Ministry of Agriculture (Latvia) (1999): *Rural development plan of the European Community support for agriculture and rural development in Latvia (SAPARD)*.

⁵⁶¹ Interview with Daiga Parsova in April 2014.

development task.⁵⁶² The concept of the new Land Management Law, which was approved in 2010, includes land consolidation.⁵⁶³ The law was approved in the first reading by the Parliament but because of parliamentary elections in October 2014, the law is expected to be adopted in early 2015.⁵⁶⁴ It will provide the general framework for land consolidation. The more detailed regulations will be developed after the implementation of a new pilot project.

The State Land Service (i.e. cadastre agency) has prepared the implementation of a new land consolidation pilot.⁵⁶⁵ In autumn 2014, the State Land Service initiated the selection of pilot areas through discussions with municipalities and stakeholders in the Zemgale Region in southern Latvia in order to find the most suitable pilot areas. It is expected to implement the pilot project during 2015-2016 after the final adoption of the new Land Management Law, and the pilot project is mentioned in the draft law. The new pilot project should provide field experience for the preparation of a national land consolidation programme. The main objective of the new pilot project will be agricultural development through the reduction of land fragmentation and the enlargement of farms, as well as improved access to parcels and renewed irrigation. This is also expected to be the main objective of projects under a future national land consolidation programme, at least to begin with. It is furthermore the intention to coordinate land consolidation projects with regional and municipal spatial planning and to combine land consolidation and local rural development.⁵⁶⁶ How exactly this is to be done is not yet clear.

According to the draft law, land consolidation will be voluntary. Land consolidation can be initiated by at least six landowners in an area of at least 100 ha, or by a state institution or the local municipality. The State Land Service will take the decision whether or not to approve the initiation of the project. A meeting with local stakeholders will then be organized. The prepared re-allotment plans will be administratively approved by the State Land Service.⁵⁶⁷

The organization of future land consolidation works in Latvia under a national programme is not yet fully decided. The Ministry of Environmental Protection and Regional Development is responsible for the preparation of the new Land Management Law with provisions for land consolidation. The State Land Service

⁵⁶² Platonova, D. and Jankava, A. (2012): *Description of land fragmentation in Latvia and its prevention opportunities*. Latvia University of Agriculture.

⁵⁶³ Parsova, D and Platonova D. (2012): *Current policy developments in land management and land banking*. Powerpoint presentation for FAO / LANDnet workshop in Budapest.

⁵⁶⁴ Interview with Daiga Parsova in April 2014.

⁵⁶⁵ Interview with Kristine Sproge in April 2014.

⁵⁶⁶ Interview with Daiga Parsova in April 2014.

⁵⁶⁷ Sproge, K. (2014): *Vision of land consolidation process in Latvia*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.

will be responsible for the upcoming pilot project and most likely also for the management of a future national land consolidation programme. It is expected that most of the fieldwork will be conducted by experts with a license for land use planning from private surveying companies. Land consolidation is currently not a high priority of the Ministry of Agriculture, which is not closely involved in the preparation of a land consolidation programme.⁵⁶⁸ Land consolidation has so far not been included in the RDP for 2014-2020 and it is not yet clear how a future national land consolidation programme will be funded. There are currently no plans to prepare and adopt a national land consolidation strategy in Latvia.

It is expected that there will be minimum of 15,000 ha of free state agricultural land after the complete finalization of the land restitution process.⁵⁶⁹ It is planned to transfer this land to new municipality land funds to be established after the adoption of the new Land Management Law. The land in the future municipal land funds will be able to participate in land consolidation projects, i.e. be used to improve the land mobility in land consolidation projects. It is not yet clear if the land can be sold (privatized) in land consolidation projects or only be used for exchanges with private land.

The Ministry of Agriculture is preparing to establish a State Land Fund. The land fund is intended to acquire land from private owners (e.g. abandoned land) and re-sell or lease out the land to active farmers as an instrument for improvement of the agricultural structures. This initiative is not coordinated with the ongoing efforts to develop a land consolidation instrument.⁵⁷⁰

After more than a decade after the second land consolidation project was finalized in 2002, a national land consolidation programme is now being prepared and could be expected to be operational from around 2017.

7.5.3 HUNGARY

The first Land Consolidation Law in Hungary was adopted in 1908 and, by 1943, land consolidation had been successfully completed in 268 villages.⁵⁷¹ The farm structures in Hungary today after the land reform are more mixed than in most of the region with the presence of both small-scale subsistence family farms; medium- and large-sized commercial family farmers; and large corporate farms operating fully on leased land. Leasing of land is common and 59 percent of the

⁵⁶⁸ Interview with Daiga Parsova in April 2014.

⁵⁶⁹ Email from Kristine Sproge in May 2014.

⁵⁷⁰ Interview with Daiga Parsova in April 2014.

⁵⁷¹ Flachner, Z. (2007b): *Land consolidation in Hungary: Lessons learned from the Bereg FAO pilot project*. Powerpoint presentation for FAO regional land consolidation workshop in Prague.

UAA in 2005 was farmed on leased land.⁵⁷² Land reform resulted in a high level of ownership fragmentation and a medium level of land use fragmentation.⁵⁷³

Hungary was the first transition country to implement a donor-funded land consolidation project, the “TAMA land consolidation project”, which began as early as 1993. The project was also the largest land consolidation project to date and was implemented during 1993-2000. The project was funded by German development funds through the German Federal Ministry of Agriculture and with German land consolidation experts providing technical assistance.⁵⁷⁴ The original aim of the project was to develop a method for computer-aided land consolidation. Later, the aim was broadened to also test land consolidation in a broader rural development context. The TAMA project first started land consolidation in 16 pilot villages and later in 1998 an additional six villages were added. Land consolidation was introduced in a voluntary approach following the procedures for voluntary land exchanges in the 1994 Law on Agricultural Land. Re-allotment plans were prepared for most of the pilot villages but landowners found it difficult to make exchange arrangements with each other and the results were not as good as expected and only few land transactions were implemented.⁵⁷⁵ Among the most important problems faced by the project was a need for comprehensive land consolidation legislation and the valuation method applied did not function well as factors such as distance from village, access to roads and drainage conditions were not taken into consideration. It was an experience from the project that voluntary land consolidation approach was not enough to address the complex problems of rural development. The project raised awareness and interest in land consolidation and recommended the establishment of a state land fund (i.e. land bank) to support future land consolidation.

A Land Consolidation Law was drafted as early as the late 1990s, based on experiences of the TAMA project but a law has never been adopted.⁵⁷⁶ The 1994 Law on Agricultural Land included, as mentioned, few legal provisions on the voluntary exchange of agricultural land between landowners, and the Hungarian

⁵⁷² Swinnen, J. and Vranken, L. (2009): *Land and EU accession – Review of transitional restrictions by new member states on the acquisition of agricultural real estate*. Centre for European Policy (CEPS), p. 16.

⁵⁷³ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁵⁷⁴ Kovacs, E. and Ossko, A. (2004): *Land consolidation in Hungary – dream or reality?*. In van der Molen, P. and Lemmen, C. (edit): *Proceedings of a Symposium held by FIG Commission 7 on 10 and 11 September 2004 in Volvic, France*.

⁵⁷⁵ Interview with Andras Ossko in June 2014.

⁵⁷⁶ Ossko, A. and Sebestyén, R. (2005): *Land consolidation in Hungary*. Paper prepared for FAO regional land consolidation workshop in Prague.

Government supported 40 percent of the land transaction costs when land was consolidated.⁵⁷⁷

The “TALC project” (Technical Assistance on Land Consolidation in Hungary) was implemented during 2003-2005 by DLG of the Netherlands and was funded by Dutch development funds. The objective of the project was to provide policy advice and training in the field of land consolidation and the project involved the Ministry, the National Land Fund and the Land Offices. Land consolidation pilots were formulated and prepared in three villages.⁵⁷⁸ A draft land consolidation strategy was developed in parallel with and supported by the project.

The strategy was drafted for the Ministry of Agriculture and Rural Development by the AKII Institute in cooperation with the West Hungarian University under guidance of the TALC project and the Ministry. The strategy was adopted by the Government but never implemented because the political interest in land consolidation declined after a change of minister in 2005.⁵⁷⁹ Furthermore, land consolidation was not included in the so-called 100 steps development programme of the Hungarian Government in 2005.⁵⁸⁰

Finally, FAO provided assistance during 2006-2007 in the project “Support to the development of a strategy for territorial organization and sustainable land management in areas with high natural disaster risk”.⁵⁸¹ The project was on regional and rural development in the Bereg region in eastern Hungary and included a few activities on using land consolidation for flood prevention.^{582 583}

The Ministry of Agriculture and Rural Development was the key beneficiary of the donor-funded land consolidation projects during 1993-2007 but no lead agency for land consolidation has been established.

In 2002, the Hungarian State owned a total of 526 000 ha of agricultural land, including 280 000 ha of arable land.⁵⁸⁴ Today, 25 percent of all agricultural land

⁵⁷⁷ Flachner, Z. (2007a): *Land consolidation in Hungary: Lessons learned from the Bereg FAO pilot project*. Paper for FAO regional land consolidation workshop in Prague.

⁵⁷⁸ DLG. (2005c): *Technical assistance for land consolidation in Hungary (TALC) – Progress report for the period January – May 2005 and Project Completion Report*.

⁵⁷⁹ Interview with Andras Ossko in June 2014.

⁵⁸⁰ DLG. (2005c): *Technical assistance for land consolidation in Hungary (TALC) – Progress report for the period January – May 2005 and Project completion report*, p. 10.

⁵⁸¹ FAO. (2004c): *Support to the development of a strategy for territorial organization and sustainable land management in areas with high natural disaster risk (TCP/HUN/3202)*. Unpublished project document.

⁵⁸² Flachner, Z. (2007a): *Land consolidation in Hungary: Lessons learned from the Bereg FAO pilot project*. Paper for FAO regional land consolidation workshop in Prague.

⁵⁸³ Flachner, Z. (2008): *Participatory micro regional development in areas with high risk – The Bereg landscape – FAO TCP Project (TCP/HUN/3002) – Final report*. FAO.

⁵⁸⁴ Sebestyen, R. (2004): *The National Land Fund*. Paper for FAO workshop on land banking, Tonder, Denmark.

remains owned by the State.⁵⁸⁵ The National Land Fund (NLF) was established in 2002 with the objective of providing agricultural land for voluntary land exchanges, with the aim of developing a sustainable ownership and farm structure through the improvement of the farm structure but also the exchange of state land with private land in flood-protected areas. The NLF can acquire land from private owners on a voluntary basis through market prices or life-annuity. Life-annuity was offered to retired owners over 60 years of age (i.e. early retirement support measure). Farmers with one to twenty ha of land were the main beneficiaries of sale and lease from NLF.⁵⁸⁶ When NLF was established, the aim was also to be an important player in a land consolidation programme.⁵⁸⁷ However, this has so far not happened.

Hungary took several significant steps towards the preparation of a national land consolidation programme during the period 1993-2007, after which activities stopped due to a lack of political support. There is currently no interest in a national land consolidation programme and land consolidation is not included as a measure in the new RDP for 2014-2020.⁵⁸⁸

The National Land Fund was expected to have the function of a land bank and to support the implementation of land consolidation projects as in the Netherlands, Germany and Denmark (section 7.3.2), but, however, this has not yet happened. Instead NLF has played a role in improving the agricultural structures through exchange transactions with private land and through lease agreements.

7-5-4 ROMANIA

By the end of 1999, land reform and the breakup of the large collective and state farms had resulted in an ownership structure in Romania where 4.1 million family farms owned 9.4 million ha of agricultural land, with an average of 2.3 ha per holding.⁵⁸⁹ The land was typically distributed in 4-5 parcels, with an average parcel size of 0.5 ha. The land reform process resulted in a highly polarized farm structure with, on the one hand, a large number of small family farms engaged mainly in subsistence farming and, on the other hand, a relatively small number of large-

⁵⁸⁵ Interview with Andras Ossko in June 2014.

⁵⁸⁶ Van Dijk, T. and Kopeva, D. (2004): *Land banking and Central Europe: future relevance, current initiatives, Western European past experience*. Land Use Policy 23 (2006), p. 294.

⁵⁸⁷ Kovacs, E. and Ossko, A. (2004): *Land consolidation in Hungary – dream or reality?*. In van der Molen, P. and Lemmen, C. (edit): *Proceedings of a Symposium held by FIG Commission 7 on 10 and 11 September 2004 in Volvic, France*.

⁵⁸⁸ Interview with Andras Ossko and Agnes Dus in June 2014.

⁵⁸⁹ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 24-25.

scale corporate commercial farms.⁵⁹⁰ Land reform resulted in excessive fragmentation of both landownership and land use.⁵⁹¹ Romania had no experience with land consolidation before 1990.

A number of international projects provided technical assistance on land consolidation in Romania. FAO commissioned a case study of land fragmentation and land consolidation in Romania during 2001-2002.⁵⁹²

GTZ (now GIZ) of Germany implemented the project “Land consolidation in Romania with the support of regional land trusts” in 2004. The project started land consolidation pilots in two villages, Sighisoara and Odorheiu Secuiesc.⁵⁹³ The fieldwork was done partly by university students. Based on project experiences it was recommended to integrate land consolidation with local rural development.

The EU-funded project “Policy support for land consolidation” was implemented by SwedeSurvey in 11 months during 2005-2006.⁵⁹⁴ Among the objectives of the project were to assist the Government in the development of a land consolidation policy and to improve capacity for land consolidation in the Ministry of Agriculture and Rural Development. The development of draft land consolidation legislation was facilitated and land consolidation pilots were started in three communities with a voluntary approach. Ownership maps were prepared for the pilot communities and a total of 833 landowners were interviewed about their interest to participate in the project. Some 59 percent of the interviewed landowners were interested, with most wishing to exchange parcels and thus reduce landownership fragmentation. Only a few were interested in selling land and land mobility in general was low. Due to the short project period, it was not possible to finalize the re-allotment plan and have it implemented and registered.⁵⁹⁵

Finally, the Dutch-funded project “Better agricultural conditions by improving land management” was implemented in 2011-2012 by a Dutch consortium of the Kadaster, DLG and ProFrizon S.r.l. The project was funded by the Dutch Ministry of Economic Affairs. The project succeeded in a pilot to establish six voluntary

⁵⁹⁰ Blenesi Dima, A. and Rusu, M. (2006): *Farmland consolidation: Recent development in Romania*. Paper for FAO regional land consolidation workshop in Prague.

⁵⁹¹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁵⁹² Rusu, M. et al. (2002): *Land fragmentation and land consolidation in the agricultural sector*. FAO.

⁵⁹³ Blenesi Dima, A. and Rusu, M. (2006): *Farmland consolidation: Recent development in Romania*. Paper for FAO regional land consolidation workshop in Prague, p. 2.

⁵⁹⁴ Eskildsen, K. et al. (2006): *Policy support for land consolidation – Final report (15 December 2005 – 15 November 2006)* (Europeaid/120518/D/SV/RO).

⁵⁹⁵ *Ibid.*, p. 19-22.

parcel exchanges under the current legislation.⁵⁹⁶ In the EU-funded project of 2005-2006, the main counterpart was the Ministry of Agriculture and Rural Development while ANCPI (i.e. the National Agency for Cadastre and Land Registration) was the main counterpart in the Dutch project in 2011-2012. It is still uncertain which institution would lead a possible future national land consolidation programme.

Draft land consolidation legislation was facilitated by SwedeSurvey during the EU-funded project in 2006 but it was not adopted. The last initiative to adopt land consolidation legislation was blocked in March 2012.⁵⁹⁷ A law has been approved by the Parliament in 2014, which is intended to support land market development and which regulates the sale and purchase of agricultural land and aims at encouraging the merging of plots into larger farms. Pre-emption rights are established for co-owners, leaseholders, neighbouring owners and the State.⁵⁹⁸ However, the law has no provisions for a land consolidation instrument.⁵⁹⁹ Romania has not prepared a land consolidation strategy and there is no plan to do so.⁶⁰⁰

The RDP for 2014-2020 provides for the possibility of funding for a land consolidation support measure.⁶⁰¹

Some 1.6 million ha, or 12 percent of the UAA, remain in state and municipal ownership and are leased out to private farms.⁶⁰² A study executed as part of the Dutch project in 2011-2012 recommends the establishment of a land bank in parallel with a land consolidation instrument.⁶⁰³

Romania has taken the first steps toward a land consolidation instrument since 2001 but there is still some way to go before a national land consolidation

⁵⁹⁶ Jansen, L.J.M. (2013): *Voluntary parcel exchanges in Romania*. Note on project in Abroad – periodical newsletter of Kadaster International March 2013, Netherlands.

⁵⁹⁷ Jansen, L.J.M. (2012): *Improvement of agricultural production in Romania by improvement of land administration, land consolidation and more efficient farms – Study on land consolidation*. ANCPI, Kadaster, DLG, and ProFrizon S.r.l. p. 62.

⁵⁹⁸ Econet Romania (2014): *New law regarding the sale and purchase of agricultural lands*. Weblink: <http://www.econet-romania.com/en/single-news/589/new-law-regarding-the-sale-and-purchase-of-agricultural-lands.html>

⁵⁹⁹ Interview with Louisa J.M. Jansen in October 2014.

⁶⁰⁰ Interview with Ileana Spiroiu in June 2014.

⁶⁰¹ Ministry of Agriculture and Rural Development (2014): *National Rural Development Programme for the 2014 – 2020 period*, p. 188-189.

⁶⁰² Ciaian, P. et al., (2012): *Sales market regulations for agricultural land in the EU member states and candidate countries*. Factor Markets Working Paper no. 14.

⁶⁰³ Jansen, L.J.M. (2012): *Improvement of agricultural production in Romania by improvement of land administration, land consolidation and more efficient farms – Study on land consolidation*. ANCPI, Kadaster, DLG and ProFrizon S.r.l., p. 61-62.

programme can be operational. The development of a legal framework still needs to be finalized, the question of the future lead agency for land consolidation should be settled and there is a need to implement additional pilots to test the legislation after it is enacted. The rural population in Romania is aging, as in many other similar countries, and it is important that a future land consolidation instrument not only addresses the land fragmentation problems but also facilitates a structural development towards larger sizes of agricultural holdings and farms and hence makes the farm units more competitive.⁶⁰⁴

7.5.5 BULGARIA

Land consolidation was started on a small scale in Bulgaria as early as 1911 and an Office for Land Consolidation was established in the Ministry of Agriculture and State Properties in 1928. During 1930-1943, 57 villages were completely consolidated, covering a total of almost 185,000 ha.⁶⁰⁵ The process continued even after 1946, and by the mid-1950s, around 10 percent of the agricultural land of the country had been included in land consolidation projects.⁶⁰⁶ Referenda for the initiation of land consolidation projects were carried out in almost 300 villages before the process was stopped by the communist government.⁶⁰⁷

The land restitution process after 1991 resulted in the re-establishment of a large number of small family farms.⁶⁰⁸ The size of agricultural holdings after land reform is two ha on average, distributed in 4-5 parcels and thus with an average parcel size of 0.4-0.5 ha. However, ownership fragmentation is considerably worse than even these figures suggest. As most of the original landowners in 1946 had died by the time of restitution, the land was restituted to their heirs. According to the Inheritance Law, every heir gets an equal share of the property when the owner dies. Each heir was thus entitled to receive a relative share of each restituted parcel. The heirs were often forced into co-ownership of the restituted agricultural parcels.⁶⁰⁹ This has led to a massive co-ownership situation in Bulgaria where many parcels have numerous co-owners.⁶¹⁰ The farm structures in Bulgaria after land reform are dualistic with a large number of small family farms and a much

⁶⁰⁴ Interview with Louisa J.M. Jansen in October 2014.

⁶⁰⁵ Kopeva, D. et al. (2002): *Land fragmentation and land consolidation in the agricultural sector – A case study from Bulgaria*. FAO, p. 63-65.

⁶⁰⁶ Email from Vladimir Evtimov in August 2014.

⁶⁰⁷ Email from Kiril Stoyanov in July 2014.

⁶⁰⁸ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 26-27.

⁶⁰⁹ Email from Vladimir Evtimov in August 2014.

⁶¹⁰ Vranken, L. et al. (2011): *Property rights imperfections and asset allocation: Co-ownership in Bulgaria*. Journal of Comparative Economics 39 (2011), p. 159-163.

smaller number of large cooperatives and corporate farms. Land reform resulted in excessive fragmentation of both landownership and land use.⁶¹¹

After the finalization of land reform in the late 1990s, the structural problems in agriculture, with excessive land fragmentation and small sizes of family farms, were recognized as a problem to be addressed. Since the early 2000s, a number of international projects have provided technical assistance on developing a land consolidation instrument in Bulgaria. First, FAO commissioned a case study of land fragmentation and land consolidation during 2001-2002.⁶¹²

During 2003-2005, the project “Land consolidation by agreement in Bulgaria” was implemented with technical assistance from the Dutch Kadaster and funded by Dutch development funds. Land consolidation pilots were implemented in two villages.⁶¹³ The approach was voluntary. In Golesh village, in the initial phase all available landowners (68 percent of the total) were interviewed and 94 percent wanted to participate. A re-allotment plan was prepared and changes of ownership were registered. The average parcel size increased from 1.53 ha before the project to 2.66 ha afterwards. In the second village, Lomzi, the project did not proceed largely because of disagreements among the landowners who rejected the land valuation, which had resulted in significant differences in property sizes before and after the project.⁶¹⁴

Also during 2003-2005, the project “Consultation services for implementation of pilot land consolidation” was implemented by CMS Bruno Morel of France and Geokonsult of Bulgaria. The project was funded by the World Bank as a small component under the “Registration and cadastre project in Bulgaria”. The project included land consolidation pilots in three villages.⁶¹⁵ The World Bank project used a similar approach to that of the Dutch-supported project. In the three pilot villages (Hurletz, Botevo and Abrit), around two-thirds of the landowners indicated interest in participating.⁶¹⁶ A re-allotment plan was prepared for each pilot but was never implemented and registered because of the absence of legal

⁶¹¹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁶¹² Kopeva, D. et al. (2002): *Land fragmentation and land consolidation in the agricultural sector – A case study from Bulgaria*. FAO.

⁶¹³ Kasabov, M. (2005): *Land consolidation and territorial organization in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.

⁶¹⁴ Email from Kiril Stoyanov in June 2014.

⁶¹⁵ Georgieva, A. (2005): *Land consolidation models: The World Bank experience in Bulgaria*. Paper for 4CLI land consolidation workshop in Budapest.

⁶¹⁶ Kasabov, M. (2005): *Land consolidation and territorial organization in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.

framework for land consolidation. A land consolidation law was drafted as an outcome of the project but the draft was politically rejected.⁶¹⁷

During 2006-2007, a second Dutch-supported land consolidation project “Land consolidation strategy and programme for Bulgaria” was implemented with technical assistance from DLG and funded through Dutch development funds.⁶¹⁸ The development of a national land consolidation strategy and support to the preparation of a land consolidation programme were the main objectives of the project. The strategy was approved politically in January 2007. Three types of land consolidation are foreseen in the strategy: i) voluntary agricultural-oriented land consolidation; ii) legal agricultural-oriented land consolidation (i.e. compulsory); and iii) land development to facilitate the implementation of large infrastructure projects.

Finally, the project “Integrated land consolidation project village of Katunets, Lovetch region” was implemented in 2009-2010, also by DLG and with Dutch funding. The project approach was comprehensive and the project integrated land consolidation with rural development measures in the pilot village. A “local development plan” was prepared and it included the rehabilitation of 14 km of main rural roads, irrigation system on 500 ha, construction of 28 km tourist paths and planting of forest lines, etc. The re-allotment planning was led by a local committee with the principal landowner and user in the area, Advance Terrafund REID, as a main driving force.⁶¹⁹ The re-allotment planning was successful and the average parcels size was increased by 100-300 percent, or from an average parcel size of 0.77 ha to an average size of 1.90 ha.⁶²⁰ The private land fund wished to be involved in the project in order to get practical experience with land consolidation and the fund covered most of the costs of the re-allotment planning.⁶²¹ The integrated measures, such as construction of rural roads and rehabilitation and enlargement of irrigation systems, have not yet been implemented because of a lack of available funding from the RDP for 2007-2013.

The Law on Ownership and Use of Agricultural Land was amended in 2007 and legal provisions for land consolidation on a voluntary basis were included. Detailed regulations (i.e. by-laws) were approved by the Council of Ministers in

⁶¹⁷ Interview with Kiril Stoyanov in June 2014.

⁶¹⁸ Stoyanov, K. (2006): *New approaches for land consolidation in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.

⁶¹⁹ Ministry of Agriculture and Food & DLG (2010): *Integrated land consolidation project village of Katunet, Lovetch region, Republic of Bulgaria*. Project brochure.

⁶²⁰ Email from Kiril Stoyanov in June 2014.

⁶²¹ Interview with Radoslav Manolov in June 2014.

May 2008.⁶²² Since then a number of smaller amendments of the law and by-laws have been adopted to remove smaller obstacles in the voluntary land consolidation process. According to the law, a local committee is established when a new land consolidation project is started. This is usually done on the initiative of the investors or large-scale farmers who promote the project. The committee applies to the Ministry for the initiation of the project. Then re-allotment planning is carried out with the involvement of the landowners who are willing to participate and is done by a private consulting or surveying company contracted by the local committee and funded by the participants. The final re-allotment plan is submitted by the local committee to the Ministry for approval.⁶²³ The Land Consolidation Unit under the Ministry of Agriculture and Food is established as the lead agency for land consolidation.

Since 2008, 20 land consolidation projects have been started in accordance with the voluntary procedures of the law. All projects are funded by private owners and investors. Five projects were expected to be finalized in 2014, including a total of 3,000 ha. In one of the projects, “Smiadovo”, large irrigation facilities were planned after the finalization of the re-allotment planning. The voluntary land consolidation procedure is relatively fast, taking around one year. In some cases, however, the investors have delayed the process because they also want to acquire additional land at low prices.⁶²⁴ It has been difficult for the small-scale farmers to fully benefit from the process except when selling land to the corporate farms and investors; often they cannot afford to participate in the project and cover their part of the costs. However, there are also good examples of small landowners who have consolidated remote parcels close to their villages. It has been the experience in the ongoing projects that around 10 percent of all agricultural land in the project areas has been sold to investors and corporate farms as part of the projects.

The lack of public funding is currently the weak point in relation to land consolidation. In 2007 when Bulgaria became member of the EU, a land consolidation measure was included in the RDP for 2007-2013.⁶²⁵ Nevertheless, the measure was never applied. It was instead the political decision to allocate the funds planned for land consolidation to a general reserve fund under the RDP but this has so far not been used. The 20 ongoing projects, as mentioned, are funded

⁶²² Stoyanov, K. (2008): *Land market, land banking efforts and impact evaluation for land development projects in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.

⁶²³ Stoyanov, K. (2014): *Experiences with voluntary land consolidation projects and rural development programming*. Paper prepared for Landnet / FAO regional land consolidation conference in Belgrade, Serbia.

⁶²⁴ Interview with Kiril Stoyanov in June 2014.

⁶²⁵ Stoyanov, K. (2007): *The Bulgarian land consolidation strategy 2007-13 and the share of the Rural Development Programme within the land consolidation process*. Paper for FAO regional land consolidation workshop in Prague.

fully by the investors and corporate farms that initiated them. The costs are relatively low, in total around € 90 per ha compared with the average land lease of around € 250 per ha per year.⁶²⁶ There is currently no political support for a broad land consolidation programme funded under the RDP for 2014-2020. The Land Consolidation Unit in the Ministry of Agriculture and Food has tried to include a support measure for land consolidation in connection with irrigation under the RDP for 2014-2020 but this seems unlikely to succeed.⁶²⁷ At the same time, it is expected that the beneficiary-funded projects will continue. It is anticipated that there will be 200 ongoing projects by 2020.⁶²⁸

After the land reform, approximately 240,000 ha of agricultural land, or eight percent of the UAA, is owned and managed by the state through lease agreements with private family farms or corporate farms.⁶²⁹ Between 2001 and the end of 2012, a total of 32 000 ha was privatized through sale of state land through tenders.⁶³⁰ Until now, state and municipal agricultural land has not been included in the voluntary land consolidation projects because state land is allowed to be privatized only through open public tenders. However, sometimes the state land is first privatized and bought by investors or corporate farms and then the land is subsequently included in land consolidation projects. The private investors (e.g. the Advance Terrafund REID) use their land stock in the project and purchase additional land near the village at the initial stage of the projects and hence they have the same function in relation to the land consolidation project as a public land bank. The land consolidation strategy adopted in 2007 was foreseen to guide the introduction of public land banking. However, there has so far not been a political will to proceed in this way.

Bulgaria has taken most of the steps towards a national land consolidation programme and the main constraint before a programme is fully operational is to secure regular public funding for land consolidation projects under the RDP and the state budget. The Dutch-supported land consolidation strategy laid the foundation for the current activities and the pilot project during 2009-2010 became the model for the ongoing voluntary projects initiated and funded by corporate farms and investors. It has been the experience that it is difficult to involve the smaller farmers in the process except where they sell their land or exchange with the corporate farms and investors. Public funding, at least to cover the participation costs of the small-scale farmers, would be an effective way to

⁶²⁶ Interview with Radoslav Manolov in June 2014.

⁶²⁷ Email from Kiril Stoyanov in September 2014.

⁶²⁸ Interview with Kiril Stoyanov in June 2014.

⁶²⁹ Ciaian, P. et al. (2012): *Sales market regulations for agricultural land in the EU member states and candidate countries*. Factor Markets Working Paper no. 14, p. 21.

⁶³⁰ Email from Kiril Stoyanov in January 2013.

allow also the small-scale farmers and landowners to benefit from the re-allotment process.

7.5.6 CROATIA

As with most of the other countries of the former Yugoslavia, Croatia has a long tradition of land consolidation, which was first carried out in Slavonia in northeast Croatia in the first half of the 19th century, following the adoption of a Land Consolidation Law by the Habsburg monarchy as early as 1836.⁶³¹ In 1902, the Croatian parliament adopted a Land Consolidation Law and until 1950, around 400,000 ha were consolidated⁶³²

The collectivization process in Yugoslavia after the Second World War largely failed and more than 80 percent of the agricultural land remained in private ownership as well as in the use of small-scale family farms.⁶³³

In 1954, the Law on Land Consolidation was adopted by the Socialist Republic of Croatia and land consolidation projects continued, often with the objective to consolidate socially-owned farms (SOEs) through a compulsory top-down procedure (*komasacija*), often at the expense of the private farms. *Komasacija* was often applied in connection with large-scale agricultural development projects, such as irrigation, land reclamation and construction of rural roads. In addition, forced parcel exchange between SOEs and private landowners, called *arrondacija*, was applied. During the socialist period of 1956-1991, a total of around 650,000 ha were consolidated in 274 cadastre municipalities. The new landownership after land consolidation projects was often not formally registered in the land book and cadastre and Croatia is still struggling with severe land registration problems today.

The farm structure in Croatia today is dominated by many small and fragmented family farms with a relatively few large corporate farms. In 2009, the average size of commercial farms (including leased land) was 8.5 ha while the average of all farms was only 2.9 ha.⁶³⁴ According to the agricultural census conducted in 2003, there were a total of 448,000 family farms, with an average of 1.9 ha divided into

⁶³¹ Milicevic, D. et al. (2013): *The history of land consolidation in Serbia*. Paper prepared for The first International Symposium on Agricultural Engineering, 4-6 October 2013, Belgrade, Serbia, p. 16-17.

⁶³² Budanko Penavic, A. and Medic, Z. (2005): *The first wave of agricultural reform in Croatia*. Paper for FAO regional land consolidation workshop in Prague, p. 3-4.

⁶³³ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 28 & 31-32.

⁶³⁴ Ministry of Agriculture (2009): *Croatian Agriculture*. Information brochure.

eight parcels.⁶³⁵ Abandoned agricultural land is a widespread phenomenon and more than one-third of the agricultural land is reported to be unused.⁶³⁶ Excessive fragmentation of both landownership and land use exists, which is related more to the farm structure of prior to the Second World War, which still remains to a large degree, than as a result of the recent land reform process.⁶³⁷ These structural problems in agriculture were the main reason for Croatia to begin the introduction of land consolidation and land banking instruments.

Two international projects provided technical assistance on land consolidation. The “Pilot project on land consolidation in Croatia” was implemented over almost four years during 2006-2009. The project was funded by Sida, the Swedish development agency, and implemented by Nordic Consulting Group (NCG) in cooperation with the Ministry of Agriculture, Fisheries and Rural Development. The objectives of the project were to support the development of a national land consolidation policy including the legal and institutional framework at national, regional and local levels.⁶³⁸ The key components included supporting the establishment of the Agricultural Land Agency and the implementation of five land consolidation pilot projects in different regions of the country.⁶³⁹ A Swedish resident advisor stayed for almost four years in Croatia.

Land consolidation pilots were implemented in five communities in different regions of the country (i.e. Novi Vinodolski, Vrbovec, Krasic, Tompojevci and Vidovec communities). The pilot approach was voluntary and the agreed land transactions followed normal land registration procedures of bilateral transactions. A re-allotment plan was prepared in each pilot and a number of exchanges were implemented and registered.⁶⁴⁰ It was the experience in four of the five pilots that land registration problems (e.g. inconsistency between the land book and cadastre, deceased and absent owners, etc.) hampered the implementation of the negotiated re-allotment plan. Besides these five pilot projects, no land consolidation projects have been initiated in Croatia since 1991.

⁶³⁵ Budanko Penavic, A. and Medic, Z. (2005): *The first wave of agricultural reform in Croatia*. Paper for FAO regional land consolidation workshop in Prague, p. 6.

⁶³⁶ Nordic Consulting Group (NCG). (2009): *Pilot project on land consolidation in Croatia – Final report*, p. 7.

⁶³⁷ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁶³⁸ Budanko Penavic, A. and Pupacic, M. (2006): *Land consolidation in Croatia*. Paper for FAO regional land consolidation workshop in Prague.

⁶³⁹ Nordic Consulting Group (NCG). (2009): *Pilot project on land consolidation in Croatia – Final report*.

⁶⁴⁰ *Ibid*, p. 22-23.



Vidovec pilot community in Varazdin County, Croatia (November 2007). The farmer was producing vegetables on around 30 ha distributed in almost 100 fragmented parcels.

The objectives of the Sida-funded project included support for the development of a national land consolidation policy. However, a national land consolidation strategy has not been prepared. The project design also included a review of the pre-war land consolidation legislation and the drafting of a new legal framework for land consolidation but this output was also not accomplished.

During 2009-2010, DLG of the Netherlands provided additional support for setting up the Agricultural Land Agency (ALA).⁶⁴¹ The project was funded by Dutch development funds. The Ministry of Agriculture, Fisheries and Rural Development was the beneficiary of both international projects. The ALA was established after the adoption of the new Law on Agricultural Land in 2008.⁶⁴² The agency is managing the Land Fund.

For a while after 2009, little occurred in relation to land consolidation in Croatia but the ALA is currently preparing a national land consolidation programme on

⁶⁴¹ DLG. (2011): *Guiding the land market by land banking*. Brochure on land banking.

⁶⁴² Nordic Consulting Group (NCG). (2009): Pilot project on land consolidation in Croatia – Final report, p. 17-20.

behalf of the Government and is expected to be the future lead agency.⁶⁴³ A new land consolidation law is currently under preparation and was initially expected to be adopted by the Parliament in autumn 2014, with the first land consolidation projects to begin in early 2015. After Croatia became member of the EU in 2013, a land consolidation measure was included in the draft RDP for 2014-2020. It is not yet clear which budget will be available for land consolidation.

The approach in the land consolidation instrument currently under preparation will be voluntary and the main objective will be to address the structural problems with land fragmentation and the small size of agricultural holdings. ALA is preparing a list of municipalities with the most need for land consolidation, and municipalities will be able to apply for projects. The municipalities, through the municipal land consolidation commissions, will be responsible for the re-allotment planning, as was the case in pre-1991 Yugoslavia. Surveying works will be carried out by private geodetic companies, selected after a tender process. Croatia is expected to need further international technical assistance to prepare the land consolidation programme.⁶⁴⁴

The state agricultural land remaining after the finalization of the land restitution has been managed by ALA following its establishment in 2008. In total, around 738,000 ha of agricultural land is owned by the state including 262,000 ha of arable land. The state land is divided in 602,000 parcels.⁶⁴⁵ In 2013, ALA began to lease out the state agricultural land on long-term lease agreements for up to 50 years. ALA has currently leased out about 276,000 ha and 462,000 ha are still free for disposal. In addition to managing the Land Fund, the agency is given the right to acquire private agricultural land for the purpose of improving the agricultural structures. The agency has pre-emptive rights to private agricultural land offered for sale on the land market. It is expected that ALA will have the function of a land bank in connection with the future land consolidation programme that is tentatively planned to begin in 2015 and be able to both purchase private land and sell it again and hence improve land mobility in the voluntary land consolidation projects.⁶⁴⁶

7.5.7 THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

With the objective to begin land consolidation projects, the Law on Land Consolidation (*komasacija*) was adopted in 1990 just before the break-up of Yugoslavia. Projects were to follow the same approach and procedures used in Croatia (section 7.5.6), Slovenia (section 7.4.2), Serbia (section 7.4.7) and Bosnia

⁶⁴³ Interview with Blazenka Micevic in June 2014.

⁶⁴⁴ Ibid.

⁶⁴⁵ Email from Blazenka Micevic in September 2014.

⁶⁴⁶ Interview with Blazenka Micevic in June 2014.

and Herzegovina (section 7.5.9).⁶⁴⁷ One project was started as a pilot in the Egri-Bitola cadastre municipality but was not finalized due to the uncertain political situation. *Arondacija* was applied from 1976 as elsewhere in Yugoslavia. In this process, bilateral exchange transactions were implemented. *Arondacija* was often used to consolidate the state farms at the expense of the private family farmers, who were often forced into the exchange process. The 1990 Land Consolidation Law and the Law on Arondation from 1976 were abolished in 2008. As in the rest of Yugoslavia, the collectivization process after the Second World War had largely failed and 78 percent of the agricultural land remained privately owned and used in small family farms when Yugoslavia broke up in 1991.⁶⁴⁸ The farm structure in the country is polarized, with few large corporate farms and many relatively small family farms with an average agricultural holding size of 2.5-2.8 ha, an average size of arable land parcels of 0.3-0.5 ha, and an average of seven land parcels per agricultural holding.⁶⁴⁹ Excessive fragmentation of both landownership and land use exists, not so much as a result of the restitution process but related to the farm structure of prior to the Second World War, which still exists to a large degree.⁶⁵⁰ The average farm size has decreased since the independence in 1991 and as much as one-third of the total arable land is abandoned.

The background for the recent introduction of land consolidation is the structural problems in agriculture with land fragmentation and small sizes of agricultural holdings and farms, and also the need for agricultural infrastructure, such as rural roads, irrigation, drainage etc.

International technical assistance for land consolidation and rural development was provided by DLG and SNV of the Netherlands through two projects funded by bilateral Dutch development programmes. In the “EMERALD project”, implemented during 2008-2009, voluntary land consolidation pilots were carried out in two pilot areas of Taor and Novaci. In Taor, a re-allotment plan with 17 ha was finalized. However, none of the pilot transactions were implemented on the ground and registered due to problems with unfinished *arondacija*, land registration problems and the lack of legal framework to ensure proper land valuation and involvement of state land in the project.⁶⁵¹

⁶⁴⁷ Ministry of Agriculture, Forestry and Water Economy (2012): *National strategy on agricultural land consolidation in the Republic of Macedonia for the period 2012-2020*.

⁶⁴⁸ Noev, N. et al. (2003): *The development of land rental markets in Bulgaria and the former Yugoslav Republic of Macedonia*, p. 72.

⁶⁴⁹ Keith, S. et al. (2009): *Options for the management of state land in rural areas of the former Yugoslav Republic of Macedonia*. Land Reform 2009/1. FAO, p. 50.

⁶⁵⁰ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁶⁵¹ Ivanoski, P. (2013): *Land consolidation in Macedonia*. Powerpoint presentation for FAO regional land consolidation workshop in Sarajevo, February 2013 and DLG. (2009): *EMERALD project - Final Report*.

The second Dutch project, the “STIMERALD project”, was implemented during 2010-2012, with a voluntary land consolidation pilot project in Konce municipality. A re-allotment plan (which included 20 landowners, 23 land parcels and a total of four ha) was finalized, implemented on the ground and officially registered.⁶⁵² Awareness raising for the local stakeholders was conducted. The local farmers were encouraged to sign up for participation in the project. All landowners in the project area were not systematically contacted and interviewed and the re-allotment plan was built up with those who signed up.

The Ministry of Agriculture, Forestry and Water Economy (MAFWE) developed a national strategy on agricultural land consolidation for the period of 2012-2020 with Dutch support through the STIMERALD project. The strategy was politically adopted in March 2012.⁶⁵³

MAFWE prepared a new Law on Consolidation of Agricultural Land during 2012-2013, and the law was adopted by the Parliament in December 2013. Five by-laws were prepared during the first half of 2014. According to the land consolidation strategy and the law, the main objective of implementing land consolidation is to reduce land fragmentation, improve parcel shapes and increase the size of agricultural holdings and hence contribute to increased productivity and competitiveness in the agricultural sector. In addition, the objective is to reduce the amount of abandoned agricultural land, improve rural infrastructure and improve environmental protection and sustainable management of natural resources. Three types of consolidation are foreseen: i) individual consolidation through normal land market transactions (not regulated in the law on consolidation of agricultural land); ii) voluntary land consolidation; and iii) complex land consolidation. In the third type, a compulsory approach is applied and projects can be approved when at least 70 percent of the landowners, owning at least 50 percent of the project area, agree to participate.⁶⁵⁴

At the beginning of 2013, MAFWE established a Land Consolidation Department with responsibility for the preparation and operation of a future national land consolidation programme.

The Government requested FAO to support the preparation of the national land consolidation programme. The project began in December 2014 and is expected to be implemented during two years. The project will include a voluntary pilot and a comprehensive pilot, support the fine-tuning of the legal framework and land

⁶⁵² DLG and SNV. (2012b): *STIMERALD project - Piloting land consolidation in Konce*.

⁶⁵³ Ministry of Agriculture, Forestry and Water Economy (2012): *National strategy on agricultural land consolidation in the Republic of Macedonia for the period 2012-2020*.

⁶⁵⁴ Law on consolidation of agricultural land adopted in December 2013, § 10.

consolidation procedures, prepare for the future funding of a land consolidation support measure under the RDP, and provide further capacity development. It is the expectation that a national land consolidation programme would be operational from around 2017.

As mentioned, 240,000 ha of agricultural land remain state-owned after the finalization of land restitution. Until summer 2013, it was not allowed to sell state-owned agricultural land according to the Law on Agricultural Land. The Law on Privatization of State Agricultural Land was adopted in June 2013 and prescribes a procedure for selling of state land only through public auction. It is currently not possible to include state agricultural land in land consolidation projects because of the lack of coordination between the Law on Agricultural Land and the new Land Consolidation Law.⁶⁵⁵ It is expected that the FAO project under implementation will provide initial support for land banking in relation to the land consolidation programme. After six years of preparation, the country is moving closer to having an operational land consolidation programme.

7.5.8 KOSOVO

In Kosovo, the Law on Land Consolidation (*komasacija*) existed after 1987. In the 1980s, land consolidation started in eight municipalities, including a total of 26,000 ha of good irrigated agricultural land. The majority of the projects were unfinished when the war began in 1998 and still remain unfinished.⁶⁵⁶

The farm structure is dominated by a large number of small and fragmented family farms and a small number of large-scale corporate farms. In 2009, the average size of agricultural holdings was 2.5 ha, distributed with an average of eight land parcels, and thus with an average parcel size of 0.3 ha.⁶⁵⁷ Some 80 percent of the farms use between 0.5 and 2.0 ha, and 90 percent of all farming units have less than 2.5 ha. Excessive fragmentation of both landownership and land use exists, largely as a result of the farm structure of prior to the Second World War, which

⁶⁵⁵ Email from Kiril Georgievski in September 2014.

⁶⁵⁶ Gashi, I. and Karrica, M. (2013): *Experiences with land consolidation and future perspectives in Kosovo*. Powerpoint presentation held at FAO regional land consolidation workshop in Sarajevo.

⁶⁵⁷ Ministry of Agriculture, Forestry and Rural Development. (2009): *Agriculture and Rural Development Plan 2009-13*, p. 25.

still exists to a large degree.⁶⁵⁸ Land fragmentation continues through inheritance⁶⁵⁹ and as a result of uncontrolled construction in agricultural land.⁶⁶⁰

It is the policy of the Ministry of Agriculture, Forestry and Rural Development (MAFRD) to create economically viable family farms and therefore to improve the farm structures through addressing the structural problems with land fragmentation and small farm and holding sizes.⁶⁶¹ Two international projects, both funded by the EU, have provided technical assistance to land consolidation.

The “Agricultural land utilisation project (ALUP)” was implemented by an international consortium (GFA Consulting Group, BVVG and Danish Ministry of Food, Agriculture and Fisheries) in two years during 2006-2008 with two resident advisors. The primary objective of the land consolidation component of the project was to develop a methodology for market-led voluntary land consolidation through a participatory approach.⁶⁶² Land consolidation pilots were started in the two villages of Shismane and Videj. The project provided input to the adjustment of the legal framework for land consolidation, prepared an inventory of the situation with the unfinished land consolidation projects from the 1980s, and supported the drafting of a land consolidation strategy.

During the ALUP project, all available landowners in the two pilot villages were interviewed and drafting of re-allotment plans began. In Shismane village, this was hampered by very low land mobility as many landowners wanted to exchange parcels with other parcels of exactly the same value. Nobody could afford to purchase extra land. In addition, it was a problem that there were large variations in soil quality within the project area, which made exchanges difficult. Thus, it was not possible to finalize any land transactions and have them registered. In Videj village, the pilot activities started later and had to follow the procedures laid down in the Administrative Instruction no. 35 / 2006 on Land Consolidation, which prescribes that a land consolidation commission must be established at the beginning of the land consolidation process. However, the involved public institutions did not manage to take the decision to establish the commission in time to finalize the re-allotment plan before the end of the project. In addition, the

⁶⁵⁸ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁶⁵⁹ Stanfield, D. et al. (2004): *An assessment of property rights in Kosovo*. USAID, p. 49-50.

⁶⁶⁰ Email from Ruitger Kuiper in August 2014.

⁶⁶¹ Email from Ruitger Kuiper in August 2014.

⁶⁶² GFA Consulting Group et al. (2008): *Agricultural land utilisation project – Project completion report*, p. 36-46.

ALUP project did not include in the budget any funds for implementation in the field, including for registration of land transactions.⁶⁶³

The second EU-funded project “Further support to land use (EULUP)” was implemented by an international consortium (GFA Consulting Group, BVVG and DLG) in two years during 2010-2012. The land consolidation component turned out to be smaller than planned. The project supported the finalization of the land consolidation strategy drafted under the ALUP project by adding a concrete action plan to the draft.⁶⁶⁴ It was expected that the EULUP project would support the implementation of the first voluntary land consolidation projects. The first project in Pozharan village was approved by MAFRD in June 2011. However, due to procurement problems, a private surveying company was still not contracted when the project finished in February 2012. The project in Pozharan is being implemented by MAFRD and a contracted local surveying company, but without further international technical assistance, and it is expected to be finalized in 2015. The project has the function of a pilot for voluntary land consolidation.⁶⁶⁵

The ALUP project supported the development of a legal framework for land consolidation based on a voluntary approach. Land consolidation provisions were adopted in June 2006 as a chapter in the Law on Agricultural Land. Land consolidation activities were, as mentioned, regulated by the Administrative Instruction no. 35 / 2006 on Land Consolidation, also prepared with support from the ALUP project. Finally, in February 2012, the Law on Land Regulation (Consolidation) was adopted. The new law regulates: i) voluntary land consolidation (chapter VII); ii) finalization of unfinished land consolidation projects (chapter VIII); and iii) water management. According to the law, projects can be started when the initiation is supported by two-thirds of the landowners in the project area. However, participation is fully voluntary.⁶⁶⁶ The Agricultural Land Department at MAFRD is the main responsible unit for land consolidation in Kosovo. According to the Law on Land Regulation, a land regulation commission is appointed by the ministry for each new project.⁶⁶⁷ The commission has overall responsibility for the project implementation.

A land consolidation strategy for the period 2010-2020, drafted under the ALUP project and further supported under the EULUP project, was finalized by an inter-ministerial committee and adopted in June 2011. The strategy’s main short-term focus is on finalizing the unfinished projects from the 1980s with formal

⁶⁶³ Email from Niels Otto Haldrup in August 2014.

⁶⁶⁴ GFA Consulting Group et al. (2012): *Further support to land use – Final project completion report*, p. 20-21.

⁶⁶⁵ Interview with Idriz Gashi in June 2014.

⁶⁶⁶ Email from Idriz Gashi in August 2014.

⁶⁶⁷ Law No. 04/L-040 on Land Regulation adopted in February 2012, § 7.

registration of landownership, including an update of the situation since the projects were abandoned and on starting the first voluntary land consolidation projects on a small scale.⁶⁶⁸

Under the strategy, land consolidation is to be funded as a support measure under the RDP and land consolidation is already included as a measure in the Rural Development Strategy for 2014-2020. To begin with, the funding is secured from the public budget but with the intention of being eligible for EU support. All costs related to land consolidation projects will be covered by public funds.

Most of the public agricultural land has already been privatized through a tender procedure where the land has usually been privatized in large blocks of parcels or whole farms at the time. Under the current Law on Land Regulation, it is not possible to include publicly-owned agricultural land in the projects.⁶⁶⁹

Since 2006, several steps have been taken towards a land consolidation programme with a voluntary approach, with the support of two EU-funded projects. The land consolidation instrument has been embedded in overall policy through the adoption of a land consolidation strategy and a legal framework has been prepared and adopted. There is a great need for further capacity building and for gaining field experiences and a pilot project is currently ongoing, being carried out by MAFRD. Furthermore, it appears that the land consolidation instrument will be limited by the fact that it is not possible to include public land in the land consolidation process.

7.5.9 BOSNIA AND HERZEGOVINA

Bosnia and Herzegovina is yet another of the countries of the former Yugoslavia with a tradition for land consolidation during the socialist era. The Law on Land Consolidation was adopted in 1974 and the first projects started in 1981.⁶⁷⁰ The projects often had the objective to consolidate socially-owned farms (SOEs) through a compulsory top-down procedure (*komasacija*). Land consolidation was often applied in connection with large-scale agricultural development projects such as irrigation, land reclamation and construction of rural roads. In addition, forced parcel exchanges between SOEs and private landowners (*arrondacija*) were applied from 1976 as elsewhere in Yugoslavia. From 1981 and until the beginning of the war in 1992, a total of 60,000 ha were consolidated in Bosnia and Herzegovina. Some of the projects were left unfinished because of the war.

⁶⁶⁸ Ministry of Agriculture, Forestry and Rural Development (2010): *Land consolidation strategy 2010 – 2020*.

⁶⁶⁹ Email from Idriz Gashi in August 2014.

⁶⁷⁰ Mahir, E. et al. (2014): *Land consolidation strategy framework paper*. Unpublished project document. FAO, p. 19-20.

Bosnia and Herzegovina declared independence in March 1992 and received international recognition in April 1992. Land issues are under the responsibility of the entities: Republika Sprska, the Federation of Bosnia and Herzegovina, and the Brcko District. Thus, what is often referred to as state agricultural land in other countries is owned and administrated by the entities, with each being responsible for their geographical area. In the Federation of Bosnia and Herzegovina and Brcko District, the 1985 land consolidation law is in principle still in force. In Republika Srpska, the law was abolished in 2011 and has not yet been replaced.⁶⁷¹

Today, as it was the case during the Yugoslavia era, the farm structures are dominated by many small and fragmented family farms, and with a few large corporate farms, often the successors of the SOEs. Land abandonment occurs even on fertile agricultural land for a number of reasons, including land fragmentation. Land market development is further hampered by out-of-date land registers. Many of the registered owners have been dead for decades and the inheritance remain unsolved and unregistered in the families. Excessive fragmentation of both landownership and land use exists, not as a result of the land reform process but instead related to the farm structure of prior to the Second World War, which still exists to a large degree.⁶⁷²

With this background, two international projects have provided technical assistance on land consolidation. The project “Popovo Polje feasibility study” was carried out during 2007-2008 by the Faculty of Agriculture and Food Science at University of Sarajevo with the involvement of regional experts from Serbia, and was funded by Spanish development funds. The study recommended the implementation of a land consolidation pilot project in the Popovo Polje in the south of the country.

During 2011-2015, FAO is providing assistance through the project “Support to the preparation of entity land consolidation strategies and land consolidation pilot projects”.⁶⁷³ Land consolidation pilots are being implemented in Dracevo village in Trebinje Municipality and in Trncina village in Ravno Municipality in the Popovo Polje plain in the southern part of the country. A land consolidation strategy framework paper was prepared and training and capacity development provided.⁶⁷⁴ The strategy framework paper may be used in the future by the entities as the basis for the preparation of land consolidation strategies.

⁶⁷¹ Ibid., p. 37.

⁶⁷² Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁶⁷³ FAO (2010): *Support to the preparation of entity land consolidation strategies and land consolidation pilot projects* (TCP/BIH/3301). Unpublished project document.

⁶⁷⁴ Mahir, E. et al. (2014): *Land consolidation strategy framework paper*. Unpublished project document. FAO.

The initial stage of the pilot projects identified a total of 295 landowners with 2,285 land parcels in Dracevo pilot village⁶⁷⁵ and a total of 120 landowners with 700 land parcels in Trncina village⁶⁷⁶. All available landowners were interviewed about their production and interest for the pilots. In both pilot villages more than 80 percent of the agricultural land is unutilized for various reasons including ownership fragmentation and the high average age of owners. In Dracevo, there is a good potential for the ongoing land consolidation pilot with several farmers interested in consolidating fragmented parcels and also in increasing their agricultural holdings. The land mobility is high both from available state land (for exchange only) and from private owners interested in selling or exchanging land parcels. In Trncina, almost all landowners want to consolidate but this is difficult with few sellers, few buyers and limited land mobility.⁶⁷⁷ It has been the preliminary experience of the FAO project that existing state agricultural land has a large potential to increase land mobility in voluntary land consolidation projects even when the sale of state land is not possible.

The main objective of the FAO pilots has been to address the structural problems in agriculture with land fragmentation and small farm sizes. Community development plans were prepared through a participatory process with the local stakeholders to embed the re-allotment planning in a local rural development context.^{678 679}

Bosnia and Herzegovina has a tradition for land consolidation from before the war in the 1990s and has moved to modernize its land consolidation instruments with international support. However, while land consolidation appears to be a priority of both entities, it is not yet clear if or how entity-level land consolidation programmes will be developed.

7.5.10 ALBANIA

Albania had no experiences with land consolidation before beginning its transition in 1990. Land reform resulted in a complete restructuring of the agricultural sector as almost half a million new small family farms were created with an average holding size of 1.05 ha, typically divided into 2-5 parcels, and with an average of

⁶⁷⁵ Drinjak, R. et al. (2013): *Dracevo land consolidation pilot project – Baseline report*. Unpublished project document. FAO.

⁶⁷⁶ Bukvic, J. et al. (2013): *Ravno land consolidation pilot project – Baseline report*. Unpublished project document. FAO.

⁶⁷⁷ Hartvigsen, M. (2014a): *Land mobility in a Central and Eastern European land consolidation context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014, p. 37-40.

⁶⁷⁸ Kaugure, L. and Pijunovic, V. (2014a): *Community development plan for Trncina (Ravno) pilot area*. Unpublished project document.

⁶⁷⁹ Pijunovic, V. (2014b): *Community development plan for Dracevo pilot area*. Unpublished project document.

3.3 parcels per holding.⁶⁸⁰ Thus, the average parcel size after land reform was around 0.3 ha and the fields are rarely contiguous. To a large degree, each family farms its own land. In 1996, more than 95 percent of the arable area was being farmed by small-scale farmers in individual farms. Cropland abandonment is common, as about 10 percent of productive land is uncultivated.⁶⁸¹ Land reform resulted in excessive fragmentation of both landownership and land use.⁶⁸²

Two international donor-funded projects have provided technical assistance for land consolidation in Albania with the main focus of addressing the structural problems in agriculture. The World Bank “Agriculture services project” was implemented with a land consolidation sub-component during 2001-2004. Land consolidation pilots were implemented in four pilot municipalities (i.e. Fiershegan, Frakulla, Suc and Pojan) and a policy study on land consolidation prepared.⁶⁸³ A total of 189 land transactions were completed in the four pilots including 146 sales, 40 parcel exchanges and 3 leases. The project approach was voluntary and market based. The results of the project were hampered by the absence of land consolidation legislation, high land transfer taxes and land registration problems.

During 2010-2013, FAO provided assistance through the project “Support to the preparation of a national land consolidation strategy and a land consolidation pilot project”.⁶⁸⁴ Land consolidation pilots were implemented in three villages in Terbuf Municipality in the Lushnje region. A draft National Land Consolidation Strategy was prepared and training and capacity development provided.

The initial stage of the project identified a total of 715 landowners with 4,248 land parcels. All available landowners (74 percent of the total) were interviewed about their production and interest for the pilot project.⁶⁸⁵ Some 84 percent of those interviewed indicated interest in participating. In the second phase of the project, the re-allotment plan was built up in the three villages after negotiations between the local stakeholders, which were facilitated by a local team of land professionals. In total, around 150 landowners (families) or 28 percent of the interviewed

⁶⁸⁰ Cunga, A. and Swinnen J. (1997): *Agricultural privatization, land reform and farm restructuring in Albania*. In Swinnen, J. et al. (edt.): *Agricultural Privatisation, land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate, p. 7.

⁶⁸¹ Deininger, K. et al. (2012): *Land fragmentation, cropland abandonment, and land market operation in Albania*. The World Bank, p. 2.

⁶⁸² Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁶⁸³ World Bank (2008): *Agriculture services project – Implementation completion and results report*, p. 21-22.

⁶⁸⁴ FAO (2010): *Support to the preparation of a national land consolidation strategy and a land consolidation pilot project (TCP/ALB/3301)*. Unpublished project document.

⁶⁸⁵ Sallaku, F. (2011): *Land consolidation baseline survey in Terbuf pilot municipality*. Unpublished project document. FAO.

landowners found solutions, with a total of around 200 land parcels in the re-allotment plan. In the third phase of the project, the land transactions agreed between the local landowners were registered following the normal Albanian land registration procedures.



Family farming in Terbuf pilot municipality in Albania (February 2012).

At the end of the project land transactions involving only 17 landowners and 35 land parcels were fully registered and implemented. The reasons were the complicated and time-consuming procedures for transfers as well as land registration problems. Thus, the pilot project identified the need for land consolidation legislation to provide simplified and cost-effective registration procedures in future projects.⁶⁸⁶ The FAO project assisted in the preparation of a community development plan for Terbuf Municipality, through a participatory process with the local stakeholders in order to embed the re-allotment planning in a local rural development context. Solving the excessive land registration problems experienced in the pilots should be well integrated in the future land

⁶⁸⁶ Hartvigsen, M. (2014a): *Land mobility in a Central and Eastern European land consolidation context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014, p. 34-35.

consolidation instrument. Otherwise, the registration problems will hamper the implementation of land consolidation projects.

A national land consolidation strategy was developed as a component of the FAO project.⁶⁸⁷ Following the end of the project, a new government was elected which resulted in changed priorities. However, the expectation is that the strategy will be adopted by the Council of Ministers after the adoption of the general “Strategy for Agriculture and Rural Development 2014-2020”.^{688 689}

The Ministry of Agriculture, Rural Development and Water Administration (MARDWA) is expected to be the lead agency for a future national land consolidation programme.⁶⁹⁰ A next step will be to establish a small land consolidation unit in the Ministry.⁶⁹¹ The proposed model is for the fieldwork to be carried out by both private companies and the Public Extension Service under the MARDWA. The legal framework needs to be developed based on the proposals in the draft land consolidation strategy, which identifies the main objective of a future land consolidation instrument as improving farm structures by providing opportunities to reduce land fragmentation and enlarge farm and holding sizes. The draft strategy proposes the use of a voluntary approach as was done in the pilots.⁶⁹² It is planned to attract donor funding for a third land consolidation pilot project in three municipalities during 2015-2017 to test the procedures of a new land consolidation law and provide further support to the preparation of a land consolidation programme.⁶⁹³ The hope is to begin the first 3-4 projects under a national land consolidation programme from 2017, funded by the budget of MARDWA. In a longer perspective as EU accession comes closer, it is intended to secure EU co-funding under the RDP.

About 134 000 ha of agricultural land has remained in state ownership after the privatization in the early 1990s. Of this, about 26 000 ha, mainly of good quality, is reserved for future restitution to former owners whose land was confiscated by the communist regime. The rest, about 108 000 ha, was refused by the rural

⁶⁸⁷ Ministry of Agriculture, Food and Consumer Protection (2013): *Albanian national land consolidation strategy* (unpublished final draft version).

⁶⁸⁸ Interview with Irfan Tarelli in May 2014.

⁶⁸⁹ Ministry of Agriculture, Rural Development and Water Management (2014): *Inter-sectoral strategy for agriculture and rural development in Albania – Final Draft version* May 2014 (not yet approved by Council of Ministers).

⁶⁹⁰ Ministry of Agriculture, Food and Consumer Protection (2013): *Albanian national land consolidation strategy* (unpublished final draft version).

⁶⁹¹ Interview with Irfan Tarelli in May 2014.

⁶⁹² Ministry of Agriculture, Food and Consumer Protection (2013): *Albanian national land consolidation strategy* (unpublished final draft version), p. 15-16.

⁶⁹³ Ministry of Agriculture, Rural Development and Water Management (2014): *Inter-sectoral strategy for agriculture and rural development in Albania – Final Draft version* May 2014 (not yet approved by Council of Ministers), section 3.3.1.

families during the land reform process mainly because of the low production value of the land, e.g. low soil quality and location in remote areas.⁶⁹⁴ Hence, little of the existing state land is suitable or available for land consolidation projects. The limited land mobility demonstrated in the pilot areas indicates that the development and use of instruments to increase land mobility will be crucial for the success of future land consolidation projects using a voluntary approach. The draft national land consolidation strategy proposes the introduction of a land bank instrument managed by MARDWA to support the implementation of land consolidation projects.⁶⁹⁵ However, the timeframe is uncertain.

7.5.11 MOLDOVA

Moldova had no experiences with land consolidation before the break-up of the Soviet Union and its independence in 1991. During the Soviet era, all agricultural land was owned by the state. The land reform in the 1990s and post-land reform development resulted in a polarized agricultural structure. Some 1.7 million ha were privatized to almost 1.1 million new owners, each with an average landholding of 1.56 ha.⁶⁹⁶ Typically, the landholding was distributed in 3-4 parcels (i.e. 1-2 parcels of arable land, one parcel of orchard and one parcel of vineyard). A duality exists with a relatively small number of large corporate farms at one extreme and a large number of very small and fragmented family farms at the other. While smallholders operate some 99.5 percent of farms, they farm less than 39 percent of the total UAA. Their farms average around one ha compared with an average of almost 250 ha for the larger operators who often farm on land leased in.⁶⁹⁷ Land reform resulted in excessive fragmentation of landownership and medium-high fragmentation of land use.⁶⁹⁸ The level of fragmentation is highest in the central part of the country.

As a result of increasing political awareness of the problems experienced by small and fragmented farms, in 2004 the Government of Moldova requested the World Bank to assist in addressing the situation. This request led to a feasibility study, and ultimately to the implementation of land consolidation schemes in six pilot villages, later scaled up to an additional 40 villages. The World Bank funded a land consolidation feasibility study during 2005-2006 with the objective of providing

⁶⁹⁴ Tarelli, I. (2012): *The management of state agricultural land in Albania: the role of central and local governments*. Paper for FIG / FAO seminar on state land management, Budapest, September 2012, p. 3.

⁶⁹⁵ Ministry of Agriculture, Food and Consumer Protection. (2013): *Albanian national land consolidation strategy* (unpublished final draft version), p. 25-26.

⁶⁹⁶ Consulting and Credit in Agriculture (CCA). (2003): *Agricultural land market in Moldova – Baseline study*. USAID Land Privatization Project, p. 7.

⁶⁹⁷ Hartvigsen, M., Gorgan, M. and Palmer, D. (2013): *Experiences with land reform and land consolidation in Moldova*. FAO Land Tenure Journal no. 2/2012, p. 10.

⁶⁹⁸ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

recommendations on pilot land consolidation activities based on a voluntary approach. The study was conducted by a team from the Danish Ministry of Food, Agriculture and Fisheries.

The “Moldova land re-parceling pilot project” was implemented in 18 months during 2007-2009 by an international consortium (i.e. Niras, Orbicon, ACSA and Terra Institute). The project was funded by the World Bank and Sida under the “Rural investment and services project II”. Voluntary, market-based land consolidation was implemented simultaneously in six selected pilot villages.⁶⁹⁹ In total, more than 7,000 landowners and almost 27,000 parcels were identified in the initial stage of the project. In this stage, all available landowners were interviewed (i.e. 80 percent of all landowners) and 49 percent of the landowners indicated interest in participating in the project. A total of 2,908 landowners or 40 percent of all landowners in the six pilot villages participated in the voluntary land consolidation pilot project and 1,776 ha changed owners. The re-allotment planning was integrated with local rural development needs through the elaboration of community development plans for each pilot village. Figure 7.4 illustrates how the land consolidation pilot was used to thaw a “frozen” local rural land market in one of the pilot villages. At the same time, the Government implemented six land consolidation pilots in parallel with somewhat limited results.⁷⁰⁰

An “Impact assessment of the land re-parceling pilot project”, funded by the World Bank and Sida, was carried out in 2011.⁷⁰¹ This is one of the very few examples of external evaluation of international technical assistance to land consolidation in Central and Eastern Europe. The evaluation included a multidisciplinary analysis of the land tenure situation and its economic, environmental and social impact, comparing the six pilot villages with three comparable control villages. The assessment of the outcome of the pilots was clearly positive.

During 2009-2010, land consolidation activities were scaled up with 40 new projects being implemented by ACSA, the local counterpart of the pilot villages. These projects were implemented without international technical assistance. In total, more than 11,500 landowners participated, more than 15,000 land transactions took place and more than 7,500 ha changed owner in the 40 villages. The projects were implemented following the same concept as the initial pilots and

⁶⁹⁹ Hartvigsen, M. (2009): *Moldova land re-parceling pilot project – Final report*. Niras, Orbicon, ACSA and Terra Institute. World Bank, Rural Investment and Services Project II.

⁷⁰⁰ World Bank (2014): *Moldova Land Governance Assessment Framework (LGAF) – Final report*, p. 9.

⁷⁰¹ Agrex. (2011): *Impact assessment of the land re-parcelling pilot project in 6 villages*. Rural Investment and Services Project II, World Bank.

without a legal framework for land consolidation and thus used the normal land transaction procedures.

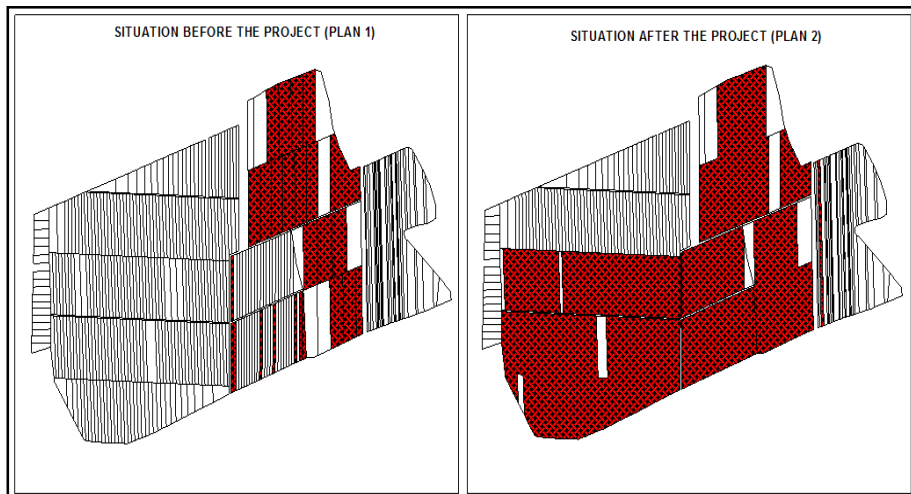


Figure 7.4: Example from Bolduresti land consolidation pilot project. Before the pilot project started, a local farmer wanted to acquire about 30 hectares in order to establish a new orchard. Some 124 individual owners were identified in the interest area. The farmer managed to acquire an area of about 10 hectares by purchasing a number of parcels with an average size of about 0.7 ha. However, the remaining area comprised parcels as small as 0.14 ha, and the high transaction costs and time constraints of dealing with a large number of owners caused the farmer to give up. Through the pilot project, the farmer was able to acquire and consolidate another 15 hectares of unproductive orchard in a relatively short period of time. This involved purchasing approximately 110 parcels from about 80 landowners. After the finalization of the pilot project the farmer continued to purchase parcels in his area of interest and in 2009 he planted a new plum orchard on the consolidated land.⁷⁰²

In 2010, the Government requested FAO to support the preparation of a National Land Consolidation Strategy.⁷⁰³ The field experiences from the six pilot villages as well as those of the subsequent 40 villages were used in the strategy development process. The strategy aims at integrating land consolidation as a new land management instrument in the overall land policy.⁷⁰⁴ The draft strategy was presented to the Ministry of Agriculture and Food Industry (MAFI) and approved by the Ministerial Council in January 2012. However, the strategy has still not been adopted by the Government, the main reason being the avoidance of a large

⁷⁰² Hartvigsen, M., Gorgan, M. and Palmer, D. (2013): *Experiences with land reform and land consolidation in Moldova*. FAO Land Tenure Journal no. 2/2012, p. 24 (Box 1).

⁷⁰³ Hartvigsen, M., Gorgan, M. and Palmer, D. (2013): *Experiences with land reform and land consolidation in Moldova*. FAO Land Tenure Journal no. 2/2012, p. 32-33.

⁷⁰⁴ Government of the Republic of Moldova (2011): *National strategy for land consolidation* (unpublished final draft version).

number of sector strategies. Instead, the general “Strategy for Agriculture and Rural Development” for 2014-2020 was adopted in March 2014 with a short section on land consolidation.⁷⁰⁵

The next step will be to prepare an “Action plan on agriculture and rural development” for the period of 2014-2020 with the inclusion of a section on land consolidation. The draft land consolidation strategy proposed that the main objective of a future land consolidation instrument would be to improve farm structures by providing opportunities to reduce land fragmentation and enlarge farm and holding sizes. The proposed approach is the same as that used during 2007-2010, i.e. voluntary. It is expected that MAFI will be the lead agency for a future national land consolidation programme.⁷⁰⁶

As mentioned, the land consolidation work in the 46 villages was implemented without special land consolidation legislation and hence followed the normal land transaction procedures. The existing Land Code includes a few general provisions in support of the implementation of land consolidation. The draft strategy proposed the amendment of a number of laws to improve the implementation of land consolidation projects but the development of specific land consolidation legislation is not considered necessary. These amendments are currently being prepared at MAFI.⁷⁰⁷ Furthermore, it is expected that the existing land consolidation provisions in the Land Code will be modified as an outcome of an FAO project in support of the revision of the Land Code.⁷⁰⁸

At present, Moldova does not have a land consolidation programme despite the considerable progress made during 2007-2011. A recent assessment has concluded that the problem with land fragmentation cannot be solved within a reasonable time only through market mechanisms.⁷⁰⁹ The likelihood of a national land consolidation programme is unclear and the political support is uncertain. While there is an interest in MAFI for land consolidation, there are currently no funds available. However, there is a support measure managed by the National Paying Agency, where buyers of agricultural land are reimbursed 50 percent of transaction costs when purchasing at least two adjacent land parcels.

Almost all state agricultural land was privatized during the land reform in the 1990s. It was the experience of the six pilot villages and the 40 subsequent villages that the land mobility in the voluntary projects was quite good because many

⁷⁰⁵ Interview with Angela Dogotari in May 2014.

⁷⁰⁶ Government of the Republic of Moldova (2011): *National strategy for land consolidation* (unpublished final draft version), p. 15.

⁷⁰⁷ Interview with Angela Dogotari in May 2014.

⁷⁰⁸ Interview with Angela Dogotari and Maxim Gorgan in May 2014.

⁷⁰⁹ World Bank (2014a): *Moldova Land Governance Assessment Framework (LGAF) – Final report*, p. 82.

private landowners were interested in selling some of their small parcels, mainly in orchards and vineyards. Thus, it can be expected that the establishing of a land bank system may not be crucial for the success of a future land consolidation programme.⁷¹⁰

7.5.12 ARMENIA

Armenia, with Georgia and Azerbaijan, was incorporated into the Soviet Union in the early 1920s and it acquired independence in 1991 after the break-up of the Soviet Union. Armenia had no experience with land consolidation before 1991.

The farm structure in Armenia after the land reform of the early 1990s is dominated by a large number of small family farms. The land reform resulted in the establishment of 324,000 private family farms.⁷¹¹ The average size of agricultural holdings is 1.21 ha, typically distributed in three to four land parcels, and with an average parcel size of around 0.3 ha. A relatively small number of larger collective and corporate farms still exist with an average size of 20 ha per farm, often using leased agricultural land from the 25 percent that comprises the state land reserve. The level of fragmentation of agricultural land today is often higher than at the time of the distribution due to inheritance between family members. Land reform resulted in excessive fragmentation of both landownership and land use.⁷¹²

FAO has provided technical assistance to land consolidation in Armenia. In 2001, FAO commissioned the preparation of a pre-feasibility study to examine the possibilities for the introduction of land consolidation in Armenia.⁷¹³ The aim was to prepare for a subsequent FAO project to introduce land consolidation.

During 2004-2006, FAO provided assistance to the State Committee of the Real Estate Cadastre (SCC) through the project "Support to the preparation and implementation of land consolidation and improved land management schemes".⁷¹⁴ A land consolidation pilot was implemented in Nor Erznka village, a

⁷¹⁰ Hartvigsen, M. (2014a): *Land mobility in a Central and Eastern European land consolidation context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014, p. 30-33.

⁷¹¹ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 45-46.

⁷¹² Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁷¹³ Chluba, K. and Schmidt-Kallert, E. (2001): *Strategy for land consolidation and improved land management in Armenia – Pre-Feasibility Study*. FAO.

⁷¹⁴ FAO (2004b): *Support to the preparation and implementation of land consolidation and improved land management schemes* (TCP/ARM/3004). Unpublished project document.

draft National Land Consolidation Strategy was prepared, and training and capacity development was provided.⁷¹⁵ A re-allotment plan was developed through negotiations with the local landowners and farmers. More than 100 landowners (families) were included in the draft re-allotment plan and 92 families were included in the final plan with the total number of participating co-owners being 281. A total of 162 land parcels were consolidated into 67 parcels. The final re-allotment plan included 92 ha, and for the participating landowners the number of owned parcels in average decreased from three to two. The average parcel size increased from 0.47 ha to 1.25 ha and the average holding size increased from 1.25 ha to 2.50 ha. Some 25 ha of arable land were converted into orchards. Municipal agricultural land was sold (privatized) to private farmers as part of the re-allotment planning. A community development plan for the pilot village was prepared in close cooperation with the Local Council and local stakeholders with the aim of embedding the re-allotment planning in a local rural development context.



Project team conducting an interview with landowner in Nor Erznka pilot community in Armenia at initial stage of land consolidation pilot project in 2005.

⁷¹⁵ Muradyan, A. and Pashayan, M. (2008): *Land consolidation pilot project in Armenia*. Paper for FAO regional land consolidation workshop in Prague.

A draft National Land Consolidation Strategy was prepared as an output of the FAO project. While the strategy was not adopted, it was used in the preparation of a Land Consolidation Concept Paper prepared by SCC. In November 2011, the Government approved the Farmland Consolidation Concept, based on the initial concept paper prepared by SCC and taking into consideration the experiences from the FAO pilot project.⁷¹⁶ The legal framework for land consolidation needs to be developed based on the Farmland Consolidation Concept.

Around 2011, the Government decided to transfer the responsibility for land consolidation activities from SCC (which had been the main Government counterpart institution in the FAO project) to the Ministry of Agriculture as part of the approval of the Farmland Consolidation Concept.⁷¹⁷ Until now, no land consolidation projects have been initiated in Armenia since the pilot project due to lack available funding.

The state agricultural land remaining after the land reform in the early 1990s has been transferred to the municipalities for their free disposal. In the pilot project during 2004-2006, a part of the available state land in the pilot village was sold to private landowners and farmers and hence used to increase land mobility in the voluntary re-allotment process.⁷¹⁸ This contributed to the good results of the pilot.

7.5.13 UKRAINE

Ukraine had no experience with land consolidation before its independence from the Soviet Union in 1991. The farm structures in Ukraine after the recent land reform are still dominated by large corporate farms, often the successors to the collective and state farms. In 2004, these farms used 59 percent of the total agricultural land and managed the land through lease agreements with state, municipalities and private owners.⁷¹⁹ The individual sector, however, has developed dramatically since 1990 and in 2004 it used 41 percent of the total agricultural land. Of this figure, household plots accounted for 33 percent and commercial family farms for eight percent. An FAO survey in 2005 found that the average rural household owned 4.6 ha of agricultural land, divided into 2.7 parcels.⁷²⁰ At the other end of the scale, the ten largest agro-holdings (i.e.

⁷¹⁶ Arka News Agency (2011): *Armenian Government approves farm consolidation concept*, Government of the Republic of Armenia. (2011): *Armenia farm consolidation concept* (unofficial translation) and email from Narek Grigoryan in May 2014.

⁷¹⁷ Email from Narek Grigoryan in May 2014.

⁷¹⁸ Muradyan, A. and Pashayan, M. (2008): *Land consolidation pilot project in Armenia*. Paper for FAO regional land consolidation workshop in Prague.

⁷¹⁹ Lerman, Z. et al. (2007): *Rethinking agricultural reform in Ukraine*. IAMO and FAO, p. 15-29.

⁷²⁰ *Ibid.*, p. 69-71.

corporate farms) control about 2.8 million ha through lease agreements.⁷²¹ The level of fragmentation of both ownership and land use in agricultural land is low.⁷²²

The Land Code opened the way for some land transactions from 2001 but also introduced a moratorium on buying and selling of agricultural land until the beginning of 2008. The moratorium has since been extended a number of times due to political discussions about the opening of the Ukrainian agricultural land market, with the latest being in November 2012 when the moratorium was extended until the beginning of 2016.⁷²³ Hence, there is still no formal agricultural land market. A Law on Agricultural Land Markets has been drafted but not yet adopted. It seems likely that the moratorium will be extended after 2016.⁷²⁴ Because of the political crisis and the conflict in eastern Ukraine in 2014, the future development in Ukraine in general, as well as related to land tenure, land markets and land management, is uncertain.

Two donor-funded international projects provided initial technical assistance to the introduction of a land consolidation instrument in Ukraine. Both projects have been closely linked to the expected lifting of the moratorium on land sales from 2016. The Dutch-funded bilateral project “Capacity building by technical assistance to programming of Ukrainian land development (CATAPULD)” was implemented during 2010-2012 by DLG of the Netherlands. The project supported the preparation of land market development and the initial steps towards a land consolidation programme.⁷²⁵ The planned project results were to: i) provide advice to a working group drafting a land consolidation law; ii) support the development of the National Programme for Land Relations Development for 2012-2020; iii) provide capacity building; and iv) to inform and involve Dutch business companies in changing land market conditions in Ukraine.⁷²⁶ Policy advice was provided in the fields of both simple and integrated land consolidation, land market development, land banking and in relation to rural development. In addition, the project supported but was not directly responsible for five pilot projects on rural development and land consolidation implemented by Ministry of Agrarian Policy and Food (MAPF).

⁷²¹ Plank, C. (2013): *Land grabs in the black earth*. In Eade, D. (ed.): *Land concentration, land grabbing and people's struggles in Europe*. Published by the Transnational Institute (TNI) for European Coordination Via Campesina and Hands off the Land network, p. 186.

⁷²² Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁷²³ World Bank. (2014b): *Application of the Land Governance Assessment Framework in Ukraine – Synthesis Report*, p. 4-6.

⁷²⁴ Interview with Willemien van Asselt in September 2014.

⁷²⁵ Delegation of the European Union to Ukraine (2013): *Assistance in development of open and transparent land market in Ukraine*. Twinning fiche, p. 10.

⁷²⁶ DLG (2013): *CATAPULD Completion Report*.

The EU twinning project “Assistance in development of open and transparent agricultural land market in Ukraine” is being implemented during 2014-2015 and is funded by the European Neighbourhood and Partnership Instrument (ENPI). The project is implemented by a consortium of DLG of the Netherlands (lead), BVVG of Germany, and the Ministry of Agriculture of Lithuania. The project has a resident advisor in Ukraine during the project period. The project has a land consolidation pilot component.⁷²⁷ The project implementation has been delayed due to the uncertain political situation in Ukraine.⁷²⁸

The State Agency for Land Resources (SALR, i.e. cadastre agency) has been the main counterpart agency of both the CATAPULD project and the ongoing twinning project.

The CATAPULD project recommended the development and adoption of a national land consolidation strategy but so far this has not been initiated. A draft land consolidation law has been under preparation since 2010 as part of the package of laws to be adopted together with the lifting of the moratorium on the sale and purchase of agricultural land. Development of the law was supported by the CATAPULD project. The draft law has not yet been adopted.⁷²⁹

Launching a national land consolidation programme is hardly relevant in Ukraine before the moratorium is lifted and the land market is functioning. This will be at the earliest from 2016. The perspectives are uncertain because of the political instability.

Around 25 percent of agricultural land (i.e. 10.7 million ha) remain state-owned in a reserve fund.⁷³⁰ The State Land Bank was created in 2012 but, while its mandate was not clearly defined, it was expected that the institution would be granted pre-emption rights when the land market is eventually opened. However, the State Land Bank was closed down in April 2014 after the change in Government. Thus, the potential for land banking in Ukraine is also uncertain.

7.5.14 DISCUSSION AND LESSONS LEARNED

Section 7.5 has identified cases where there has been experience with land consolidation since the beginning of the transition in 1990 but there are not yet land consolidation programmes defined in terms of the minimum requirements in section 7.2. Estonia, Hungary, Bulgaria and Croatia already had land

⁷²⁷ Delegation of the European Union to Ukraine. (2013): *Assistance in development of open and transparent land market in Ukraine*. Twinning fiche, p. 13-14.

⁷²⁸ Interview with Willemien van Asselt in September 2014.

⁷²⁹ Email from Olga Zhovtonog in September 2014.

⁷³⁰ World Bank. (2014b): *Application of the Land Governance Assessment Framework in Ukraine – Synthesis Report*, p. 4.

consolidation programmes before the Second World War and parts of Yugoslavia (Bosnia and Herzegovina and Kosovo) launched programmes in the 1980s.

The driving factor behind the introduction of land consolidation in this category of cases with some land consolidation experience but not yet a programme has been mainly that of land fragmentation and small farm and holdings sizes, and the recognition among decision-makers of the importance of these structural problems in agriculture. The integration of land consolidation with local rural development needs has been only a secondary driving factor and it often appears to have been included in international technical assistance project after the recommendation of international institutions, donors and international experts with a background in land consolidation in Western Europe.

The typical introduction of land consolidation instruments in the region has been through international technical assistance projects funded by donors and international organizations and usually with the implementation of land consolidation pilot projects. Figure 7.5 shows where pilots were implemented. With the exception of Estonia, the first pilots were all implemented with a voluntary approach. There are good reasons for this. First, compulsory land consolidation requires the adoption of a special legal framework which was not in place when the first pilots were started, except in Estonia where a law with a compulsory approach (based on land consolidation legislation prior to the Second World War) was adopted in 1995 before the pilots were initiated in 1998. Second, many of the countries started land consolidation pilots in the 1990s and the early 2000s, shortly after private ownership of agricultural land was restituted or distributed to the rural population after decades of collectivization. In this situation where private landownership is not taken for granted, many of the rural population were afraid that they would once again lose their land rights to the state, including through land consolidation projects, and in general the trust in government was often low.

The analysis of the land consolidation pilot experiences shows that it is important to have enough time to ensure good outcomes of the pilots. In Romania, 11 months in the EU-funded project during 2005-2006 was not enough to finalize the re-allotment plans and have the agreed land transactions registered and implemented. In Moldova, where the results were good, the availability of more time would have resulted in even better achievements. In Bosnia and Herzegovina, it was necessary to approve a second phase of the pilots to have enough time to finalize everything. The pilots also showed that the time schedule of the pilots should be properly timed with the working seasons in the field, for example, allowing negotiations with the local stakeholders to be held over two winters when the farmers have more time. Often two to three years will be the optimal duration of land consolidation pilots.



Figure 7.5: Locations where land consolidation pilot projects have been implemented with international technical assistance.

Land consolidation pilots have provided valuable experiences and understanding of bottlenecks and constraints in existing procedures and legal provisions that hamper both land market development and implementation of land consolidation projects. In Albania, the pilot revealed complicated and time-consuming land transaction procedures that often lead to informal and not formal land transactions. In this way the pilots have often documented and justified the need for land consolidation legislation in the country. This has been the case in several of the countries not yet with a programme including Albania, Hungary, Latvia, Croatia and the FYR Macedonia. The experiences gained in pilots have also been fed directly into the formulation of land consolidation strategies in countries where these have been developed.

Usually, the pilot projects have covered all or most of the relevant costs, such as re-allotment planning and land transactions. Several pilots, including Bosnia and Herzegovina and Moldova, have shown that some of the participants would have been willing to cover part of the costs. However, many of the participants would have refrained from participation if they had been asked to cover the costs by themselves, either because they could not afford to do so (despite of the longer-term benefits from the land consolidation), or because they participated mainly to help neighbours and others (such as elderly or absent landowners who were not farming the land). Excluding these groups of participants by asking them to fund their part of the costs would have limited the overall outcome of the projects, and the incentive provided through free-of-charge participation is hence essential. The Bulgarian case (section 7.5.5) shows the limitations of investor / participant funded land consolidation where the main focus is on the interest of the investors paying for the costs of the projects.

In nine cases, international technical assistance projects supported the governments in developing national land consolidation strategies. In Lithuania and Serbia, already with ongoing land consolidation programmes, the strategy development was crucial to ensure the political support necessary to take the final steps towards operational programmes. The same is the case in FYR Macedonia, Bulgaria and Kosovo, where operational land consolidation programmes are moving towards being in place. Figure 7.6 illustrates where land consolidation strategies have been developed but not necessarily adopted politically.

Section 7.4 reviewed the seven countries that have already established ongoing land consolidation programmes and we can now assess how close others in this second category are to this goal, which is often formulated when the first small pilot is launched. The analysis shows that work has progressed significantly towards operational land consolidation programmes in five localities, where the minimum requirements defined in section 7.2 are taken into consideration. This is illustrated in table 7.2. A tick “√” indicates that the specific minimum requirement is fulfilled while a tick in brackets “(√)” indicates that the requirement is almost fulfilled, e.g. the Latvian case where the concept of the land management law with land consolidation provisions was approved in 2010 but the law is not yet finally approved.

In these five cases, it has more or less been decided which public institution will be the future lead agency with overall responsible for the management of a land consolidation programme and also a legal framework is almost in place. In Bulgaria, FYR Macedonia and Kosovo, the adoption of land consolidation strategies have embedded land consolidation in the overall land policies. This is not the case in Latvia and Croatia and thus the final adoption of legal framework is still vulnerable to last minute political decisions.

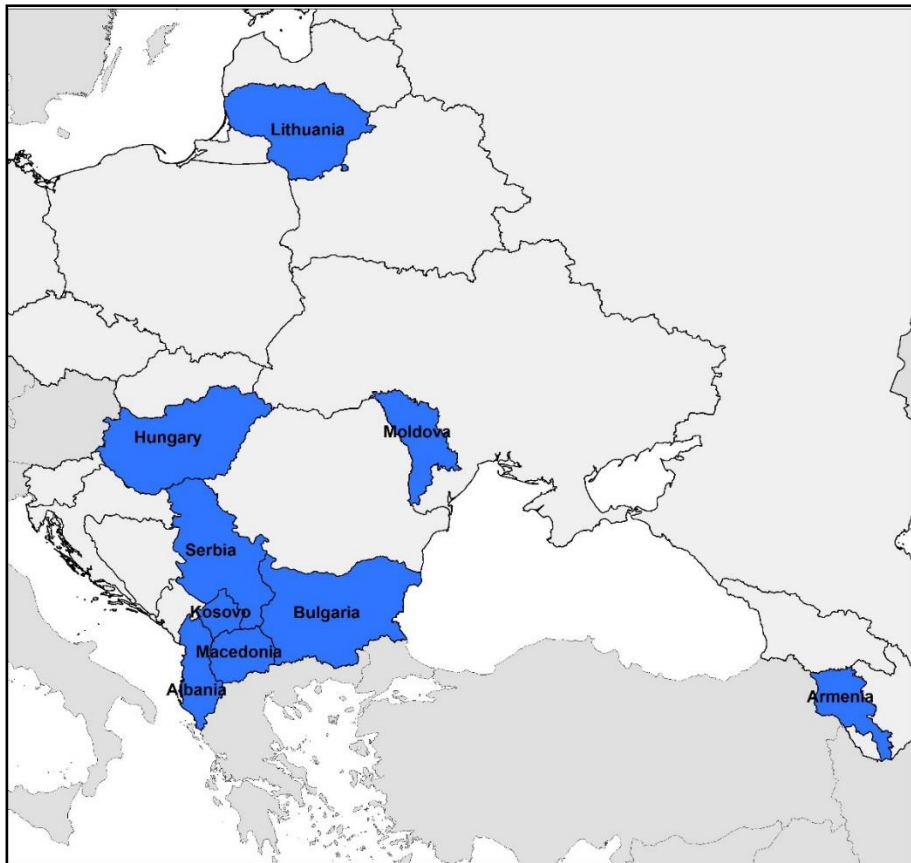


Figure 7.6: The development of land consolidation strategies (but not necessarily their adoption).

Table 7.2 reveals that the weak points are the available technical and administrative capacity as well as the securing of funding for an ongoing land consolidation programme. As EU member countries, Latvia, Bulgaria and Croatia have access to funding under the RDP but so far it appears that only Croatia will use this opportunity, at least from the beginning of the RDP for 2014-2020. However, including land consolidation as a support measure under the RDP is not a guarantee that funding will actually be available. Latvia included a land consolidation measure in 2002 in the SAPARD programme and Bulgaria included a measure in the RDP for 2007-2013 without bringing it in use. In Kosovo, funding of land consolidation activities has been secured in the public budget while it is still an open question in the FYR Macedonia how funding will be secured.

	Land consolidation embedded in country land policy	Legal framework for land consolidation adopted	Lead agency for land consolidation established	Technical and administrative capacity to implement land consolidation projects and manage programme	Secured funding at least 2-3 years ahead
Latvia		(√)	√		
Bulgaria	√	√	√	√	
FYR Macedonia	√	√	√		
Croatia		(√)	√		(√)
Kosovo	√	√	√		√

Table 7.2: Progress in locations close to having an operational national land consolidation programme (December 2014).

The study demonstrates how political support can emerge and vanish again over night after elections or changes in ministers. In Hungary, many efforts went into the preparation for a land consolidation programme, including land banking, over a long period from 1993 but progress was stopped in 2007. At the moment future work on land consolidation appears unlikely in Hungary, at least for the short term. But equally, Latvia and Estonia provide examples of how interest and political support can re-emerge after being on stand-by for more than a decade. The analysis shows that the road from the first small pilot to an operational programme is almost never straightforward but instead it exists with detours and bumps. This can give hope for countries such as Albania, Armenia, and Moldova where the development towards a land consolidation programme appears to be temporarily on hold. Land consolidation is still vulnerable until national programmes are operational and the first regular projects are in progress. The development process in each country is often driven by a small number of key persons, often department managers or similar in the Ministry of Agriculture or the cadastre agency, with good political support and personal relations to decision-makers, but also embedded in an international network such as the FAO network and LANDNET (see section 7.7).

The organizational aspects of land consolidation and land banking instruments are also important when moving from pilots to programmes. As discussed in section 7.4.8, the Ministry of Agriculture is the lead agency for land consolidation in all seven countries already with programmes. The same is the case in most Western European countries, with Finland as an exception where the National Land Survey (i.e. cadastre agency) leads land consolidation activities. In some cases in this second category, it seems as the land consolidation instrument is in danger of “falling between the chairs” (if it has not already done so) of the Ministry of Agriculture (MoA) and the cadastre agency. Land consolidation is a multi-

disciplinary tool, which as a minimum requires the proper involvement of both the land register (or cadastre) and the institution responsible for agricultural development (i.e. MoA). Thus, it is crucial for development towards a national programme that both sides are thoroughly involved but also that, based on local preconditions, one of them is designated to take the lead.

On the technical side, the study shows it is crucial that solving existing land registration problems in the land consolidation project areas is fully integrated in the land consolidation process. This is demonstrated in the cases of Albania, Bosnia and Herzegovina, and Croatia, where land registration problems often hamper normal land market development. There are also many examples from the land consolidation pilots in the region that show that the normal rural land market is not solving the structural problems in agriculture and this seems to be increasingly recognized among decision-makers and leading experts. A recent example is the World Bank Land Governance Assessment Framework (LGAF) in Moldova (section 7.5.11).⁷³¹

Furthermore, it is important to realize the relationship between the normal rural land market and a land consolidation instrument. In order to get acceptance among the beneficiaries, at least in voluntary land consolidation, the valuation in the land consolidation project should be transparent and market-based, which also allows for the structural development where some may choose to sell while others purchase additional land and develop their business. In this understanding, land consolidation also becomes a tool to develop the local rural land market where it is not functioning. Land consolidation is not something that is carried out instead of the land market but it is rather in support of the development of the land market. Another aspect of land market development is demonstrated in the case of Latvia where the development of the normal rural land market leads to further fragmentation of both landownership and land use when the land purchased by farmers to develop their businesses is not adjacent to the land already owned. Thus, land consolidation is not an exercise that solves the structural problems once and for all but instead is an instrument that may be needed in the same community with intervals of perhaps 15 or 20 years.

When looking broadly at the many international technical assistance projects on land consolidation in the region over the last 25 years, with perhaps the exception of some of the first projects in the 1990s, it is not reasonable to conclude that Western European land consolidation instruments have been copied and transplanted in Central and Eastern Europe. Instead, much effort has been put into developing tailor-made solutions based on local conditions and priorities in

⁷³¹ World Bank (2014a): *Moldova Land Governance Assessment Framework (LGAF) – Final Report*, p. 82.

the countries. However, there is no doubt that land consolidation instruments in Central and Eastern Europe are not developed in a vacuum and that best practices both from Western Europe and other transition countries have given inspiration to local solutions. This is further discussed in section 7.8.

The situation with land consolidation in the former Yugoslavia (with the exception of Montenegro and the FYR Macedonia) is different from the other countries, with the exception of Poland, because of the existence of land consolidation instruments and programmes during the socialist era. Here, the challenge has not been to introduce land consolidation for the first time but to modernize the traditional instruments. When doing pilots under such conditions, the existing land consolidation tradition has proven to be an advantage and a disadvantage at the same time. The main advantage is that both decision-makers and beneficiaries have an understanding that the instrument can be used to address land fragmentation and small farm and holding sizes, as well as to meet local rural development needs. The disadvantage is that the instrument may be discredited because of bad experiences in the past and it often takes a while to overcome these views of land consolidation.

Land banking in Central and Eastern Europe has been promoted just as strongly as land consolidation by the Western European land consolidation professionals active in Central and Eastern Europe, and land banking has been the topic of FAO and LANDNET workshops (see section 7.7.1).⁷³² Several countries in the region have shown an interest in land banking. The study, however, shows that land banking has so far largely failed in Central and Eastern Europe, at least as a land management tool to support land consolidation projects and programmes with increase in land mobility. As discussed in section 7.4.8, none of the seven countries with ongoing land consolidation programmes use the available state land as a revolving land bank in support of their land consolidation instruments. The state usually participates as any other landowner with the aim of consolidating fragmented parcels, and nothing more. In some places, it is not even possible to exchange state agricultural land with private land in land consolidation projects (e.g. FYR Macedonia and Kosovo). Among those with land consolidation experience but not yet a programme, Hungary, Croatia and Ukraine stand out in relation to land banking. In Hungary, the National Land Fund was established as early as 2002 with support to a land consolidation programme among its main objectives. However, the land consolidation programme has not yet been launched and the land fund is now aimed at improving farm structures through bilateral lease and sale-purchase agreements with individual landowners and farmers. In

⁷³² Land banking was the main topic of FAO workshops in 2004 (Tonder, Denmark), 2008 and 2010 (Prague, Czech Republic) and 2011 and 2012 (Budapest, Hungary). Website: <http://www.fao.org/europe/activities/land-tenure/landconsee/en/>

Croatia, the Agricultural Land Agency (ALA) was established in 2008. ALA is currently in the process of leasing out the state land to private farmers and corporate farms but also has the mandate to acquire land from private owners with the purpose of improving agricultural structures. It is expected that ALA will have the function of a land bank in connection with a future land consolidation programme, which is in the final stages of preparation. In Ukraine, the State Land Bank was established in 2012 and was expected to support a land consolidation programme after the lifting of the moratorium on sale and purchase of agricultural land. However, the land bank was closed by the new Government in 2014 and the situation is uncertain. The failure of land banking in the region will be further discussed in section 7.9.

In the 1990s and 2000s, the focus for land consolidation activities for the second category was on the implementation of the first pilots and initial capacity development. Today, the focus has mostly shifted and the need for further international technical assistance and support for the development of land consolidation programmes and for making them fully operational. Pilots may still be relevant but now with the aim of testing provisions and procedures in newly adopted legal frameworks before full-scale implementation.

7.6 COUNTRIES WITH LITTLE OR NO LAND CONSOLIDATION EXPERIENCE

In a third category of five countries of Central and Eastern Europe, land consolidation instruments have not yet been introduced or the countries have so far had little experience with land consolidation.

7.6.1 MONTENEGRO

Land consolidation projects were not implemented in Montenegro during the Yugoslavia era as was the case in most of the other socialist republics. In 1992, Montenegro adopted the Law on Agricultural Land with provisions for land consolidation (*komasacija*). However, a land consolidation programme was never introduced and no projects were initiated before the break out of the war in the early 1990s.⁷³³ In the 1980s, around 90 percent of the agricultural land remained owned by private family farms.⁷³⁴

Farm structures in Montenegro have remained relatively stable over the past decades despite land reform initiatives. The average size of family-owned agricultural holdings was 4.6 ha in 2010 and of this an average of 4.4 ha was

⁷³³ Email from Irina Vukcevic in September 2014.

⁷³⁴ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 33-34.

used.⁷³⁵ This is slightly larger than in the neighbouring countries. Excessive fragmentation of both landownership and land use exists, and it is related to the farm structure of prior to the Second World War, which still exists to a large degree, rather than as a result of the restitution process.⁷³⁶

To date, there have been no international projects related to the introduction of land consolidation. Land consolidation has not been a high political priority either before or after independence in 2006 compared with elsewhere in the former Yugoslavia. In the Agriculture and Rural Development Strategy from 2006, land consolidation was mentioned as a tool for increasing competitiveness of food producers but without leading to specific activities.⁷³⁷

In the new draft Strategy for Development of Agriculture and Rural Areas for 2014-2020, the need for an increase in the average farm size and the reduction of land fragmentation through a comprehensive land consolidation effort is mentioned.⁷³⁸ The Ministry of Agriculture and Rural Development is currently preparing an amendment of the Law on Agricultural Land and the revision is expected to include the existing land consolidation provisions even though the main focus will be on the protection of agricultural land from uncontrolled urban development.⁷³⁹ There is currently no short-term expectation of a national land consolidation programme in Montenegro.

7.6.2 GEORGIA

Georgia had no experience with land consolidation before independence from the Soviet Union in 1991. The land reform process resulted in the establishment of a large number of small private family farms with an average holding size of only 0.9 ha and fragmented into an average of four to five parcels.⁷⁴⁰ Thus, the average parcel size is 0.2 ha. During the second stage of privatization, which began in 2005 and continued to 2011, the state allowed leaseholders to buy the agricultural land that they had been occupying through a lease purchase contract and for a price

⁷³⁵ Montenegro Statistical Office. (2011): *Agricultural Census 2010 – Structure of Agricultural Holdings*, p. 41.

⁷³⁶ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁷³⁷ Ministry of Agriculture, Forestry and Water Management (2006): *Montenegro's agriculture and European Union – Agriculture and rural development strategy*, p. 100.

⁷³⁸ Ministry of Agriculture and Rural Development (2014): *Strategy for development of agriculture and rural areas – Draft version 3.0 July 2014*, p. 45.

⁷³⁹ Email from Irina Vukcevic in September 2014.

⁷⁴⁰ Müller, W. et al. (2001): *Strategy for land consolidation and improved land management in Georgia – Pre-feasibility study*. FAO, p. 5-7.

that equalled ten times the land tax.⁷⁴¹ If the tenants refused, the land was privatized through auctions.

The farm structures in Georgia are dominated by a large number of small privately-owned subsistence family farms, and with a considerable number of both medium-sized family farms and larger corporate farms, with the latter two types operating mainly on leased and privatized state agricultural land. Land reform resulted in excessive fragmentation of both landownership and land use.⁷⁴²

In 2001 FAO commissioned a pre-feasibility study to examine the possibilities for the introduction of land consolidation in Georgia at the same time as a similar study was conducted in Armenia (section 7.5.12).⁷⁴³ The intention at the time was to prepare for a subsequent FAO project to introduce land consolidation in Georgia. However, a request for a land consolidation project was never made by the Government.

The German development bank, KfW, funded a land administration project “Set up of a cadastre and land register” that was implemented during 2000-2008 and which was expected to have a land consolidation component.⁷⁴⁴ However, the efforts were focused mainly on the development of a digital soil atlas and not on land consolidation as such.⁷⁴⁵

Land consolidation has not been a priority among the politicians in Georgia and little has happened. However, agriculture is now among the priorities of the Government and it may be that more steps might be taken to introduce land consolidation.⁷⁴⁶

7.6.3 AZERBAIJAN

Azerbaijan had no experience with land consolidation before the independence from the Soviet Union in 1991. During the recent land reform process, only the best agricultural land was subject to privatization, for a total area of 3.62 million ha. A total of 869 000 rural families were each distributed an average of 1.6 ha of agricultural land, typically divided into four to five parcels. The farm structures are characterized by many small and medium-sized family farms and with relatively few larger corporate farms. Some 80 percent of the family farms chose

⁷⁴¹ Email from David Egiashvili in July 2014.

⁷⁴² Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁷⁴³ Müller, W. et al. (2001): *Strategy for land consolidation and improved land management in Georgia – Pre-feasibility study*. FAO.

⁷⁴⁴ Egiashvili, D. (2005): *Aspects of land consolidation in Georgia*. Paper for FAO regional land consolidation workshop in Prague.

⁷⁴⁵ Interview with Joseph Salukvadze in June 2014.

⁷⁴⁶ Interview with David Egiashvili in June 2014.

to farm the land themselves.⁷⁴⁷ Land reform resulted in excessive fragmentation of both landownership and land use.⁷⁴⁸

There have not been any international projects or other activities related to the introduction of a land consolidation instrument in Azerbaijan. There is currently an increased interest in land consolidation in the Government but no specific action has been taken.⁷⁴⁹

7.6.4 THE RUSSIAN FEDERATION

Starting in 1990, the Russian Federation is implementing its third land reform in the last 100 years, with first being the Stolypin reforms in Czarist Russia from 1906 and the second being that of collectivization.⁷⁵⁰ The farm structures have not changed significantly in the Russian Federation since the breakup of the Soviet Union and large farms still dominate, with most of the land now being owned by the rural population in the form of land shares. The land market was opened in 2003 and is still dominated by lease agreements while land sales are much less common. However, the sales-purchase land market is increasing. The level of fragmentation of both ownership and land use in agricultural land is low.⁷⁵¹

Few activities or projects can be related to the introduction of a land consolidation instrument, mainly because the large majority of agricultural land is still used by large corporate farms through lease agreement with owners of land shares. In this context, land consolidation in the usual Western European understanding (section 7.3.2) is not directly applicable.

The bilateral Russian-Danish project “Introducing land market mechanisms into farming” was implemented during 2002-2006 and funded by Danish development funds.⁷⁵² The main objective of the project was to design a model for agricultural redistribution in Russia. In two pilots (former collective farms) in Pskov Oblast all owners of land share were involved in a process where the farm land was separated into three categories based on the wishes of the shareholders:

⁷⁴⁷ Dudwick, N. et al. (2005): *A stocktaking of land reform and farm restructuring in Bulgaria, Moldova, Azerbaijan and Kazakhstan*, p. 30.

⁷⁴⁸ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁷⁴⁹ Safarov, E. (2012): *Management of state land in Azerbaijan*. Paper for FIG – FAO workshop on state land management in Budapest and interview with Email Safarov in June 2014.

⁷⁵⁰ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 41-42.

⁷⁵¹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁷⁵² Overchuk, A., Hansen, L. and Hansen, N. (2005): *Developing farm redistribution model in Russia*. Paper for FAO regional land consolidation workshop in Prague.

i) land designated for locating new individual private family farms; ii) land for continued collective farming; and iii) land unclaimed in the process of distribution of land shares. In a second stage of the project, the model was implemented in an additional six farms in Pskov and Kaliningrad Oblast. After the project ended in 2006, the model was further applied in at least 20-25 former collective or state farms in Pskov Oblast.⁷⁵³ The model is not currently applied in the Russian Federation because few land share owners are interested in starting up private family farms due to the many constraints, including the limited state support for private farming.⁷⁵⁴

There could be potential to apply a voluntary land consolidation approach as an integrated part of the process of physical distribution of the land owned through land shares.⁷⁵⁵ The Danish pilot project in Pskov and Kaliningrad Oblast was an attempt to develop such model. However, in the short term, it appears unlikely that a national land consolidation programme will be launched in the Russian Federation.

7.6.5 BELARUS

Belarus still does not allow private ownership of agricultural land and all land remains state-owned.⁷⁵⁶ The Law on Landownership adopted in 1993 allowed private ownership of only household plots of up to one ha.⁷⁵⁷ The 1999 Land Code confirmed that citizens may own up to one ha of agricultural land in a household plot and up to 0.25 ha of agricultural land under and around a private house.⁷⁵⁸ Additional land has to be leased from the state.

The farm structures except for the household plots are still completely dominated by large-scale state subsidized corporate farms. In 2012, 86.4 percent of all agricultural land was used by large corporate farms while only 1.4 percent was used by private family farmers and 10.2 percent by citizens for household needs.⁷⁵⁹ Thus, the level of fragmentation of both ownership and land use in agricultural land is very low.⁷⁶⁰

⁷⁵³ Interview with Lennart Hansen in September 2014.

⁷⁵⁴ Interview with Alexander Sagaydak in August 2014.

⁷⁵⁵ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 340.

⁷⁵⁶ Hartvigsen, M. (2013a): *Land reform in Central and Eastern Europe after 1989 and its outcome in the form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 44.

⁷⁵⁷ Lerman, Z. et al. (2007): *Rethinking agricultural reform in Ukraine*. IAMO and FAO, p. 70.

⁷⁵⁸ Giovarelli, R. and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 7-12.

⁷⁵⁹ FAO (2012b): *Assessment of the agriculture and rural development sectors in the Eastern Partnership countries – Republic of Belarus*. Study funded by the European Union, p. 8.

⁷⁶⁰ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

There have been no activities or projects related to the introduction of land consolidation for the obvious reason that private ownership of agricultural land is not allowed and that there is no rural land market. During 1998-2008 SwedeSurvey implemented a series of projects with the overall objective to develop a real property market with funding by Sida, the Swedish Development Agency.⁷⁶¹

Currently there is no relevance of or possibility for a national land consolidation programme as long as private ownership of agricultural land is not allowed and privatization of the state land has not been launched. If a land privatization programme were to be carried out, it could be relevant to apply a voluntary land consolidation approach as an integrated part of a future land privatization programme to avoid the land fragmentation that has been the outcome of land reform in many of the transition countries.⁷⁶²

7.6.6 DISCUSSION AND LESSONS LEARNED

Five of the Central and Eastern European countries have had little or no experience with the introduction of land consolidation and land banking instruments as they are applied in many Western European countries (section 7.3.2). The reasons for this vary. In Belarus, where private ownership of agricultural land is still not allowed except for the small household plots around the villages, the introduction of land consolidation and land banking is currently not relevant.

In Georgia, Azerbaijan and Montenegro, agricultural structures exist with small holding and farm sizes and excessive fragmentation of both landownership and land use, similar to other countries where the same problems have been addressed by introducing land consolidation instruments. So far, land consolidation has not been a priority of the various governments in these three countries and Montenegro is the only country of the former Yugoslavia with no experiences in land consolidation.

In the Russian Federation, most of the agricultural land has been privatized but to a large degree it remains owned by the rural population through land shares and the land is mainly used by large corporate farms through lease agreements with the shareholders. In this situation with low land use fragmentation, a land consolidation instrument as applied in many Western European countries is hardly relevant. However, it could be relevant for the Russian Federation and Belarus to include elements of a land consolidation process in a possible future distribution of the agricultural land, thereby allowing facilitated transactions with land shares through re-allotment planning before the boundaries of the

⁷⁶¹ Sahlin, Å. And Kalyta, M. (2008.): *Development of real property market in the Republic of Belarus*. SIDA Evaluation 2008:19, p. 7-8.

⁷⁶² Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 340.

physical parcels are demarcated and registered. That could avoid excessive fragmentation of landownership as an outcome of land reform and the registration costs in connection with land reform as well.

7.7 REGIONAL DISSEMINATION OF KNOWLEDGE ON LAND CONSOLIDATION AND LAND BANKING

Over the last 15 years, there has emerged a strong informal community and network of land tenure professionals interested in land consolidation, land banking and other similar topics related to Central and Eastern Europe. The “members” of the informal network are typically land professionals in most of the transition countries as well as professionals from Western Europe who are involved in projects in those countries. The process has mainly been driven and also partly funded by FAO since the beginning. Initially, the focus was exclusively on Central and Eastern Europe. However, over the years the network has evolved into a broader European cooperation called the LANDNET but with Central and Eastern Europe still playing a central role.⁷⁶³ In addition to dissemination and learning from the experiences of others, the establishment of the network has also resulted in specific projects in transition countries and regional projects such as FARLAND.

During 2002-2014, a total of 15 regional workshops and conferences have been organized, often with between 50 and 100 participants coming from 20 to 30 European countries. Proceedings from all these events are available at the website of FAO’s Regional Office for Europe and Central Asia and represent a unique information source on the experiences and development in land consolidation, land banking, land market development and related topics over more than a decade.⁷⁶⁴ Shortly after FAO was founded in 1945, it had started to work on land fragmentation and land consolidation.⁷⁶⁵ In the late 1990s, land fragmentation and land consolidation re-appeared on the agenda, this time in the context of the transition to market-oriented democracies and FAO started to document and address problems in this area.

The first major event involving a broad grouping of countries and other stakeholders, as well as development organizations, was the international symposium on land consolidation held in Munich in 2002. As an outcome of the meeting, the participants agreed on “The Munich Statement on land consolidation

⁷⁶³ Van Holst, F., Eberlin, R. and Onega Lopez, F. (2014): *LANDNET and land market issues in Europe*. *ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement* 3/2014, p. 183-189.

⁷⁶⁴ Proceedings from FAO and LANDNET workshops are available from: <http://www.fao.org/europe/activities/land-tenure/landconscce/en/>

⁷⁶⁵ Binns, B. (1950): *The consolidation of fragmented agricultural holdings*. FAO.

as a tool for rural development in CEE / CIS countries”. The statement expressed the concern of the participants in terms of the negative impact of land fragmentation in transition countries and recommended to decision-makers in these countries and in donor organizations to include land consolidation as an essential instrument for rural development.

In 2004, the first regional workshop on land banking was held in Tonder in Denmark and was funded by FAO and the Danish Ministry of Food, Agriculture and Fisheries. During 2005-2010, FAO organized six regional land consolidation workshops in Prague, with much of the funding being provided by the Czech Republic. During 2010-2012, four regional workshops on land consolidation, land banking and land market development were funded by Dutch development funds and FAO and held in Budapest, the location of the FAO Regional Office for Europe and Central Asia. In 2013, a regional land consolidation workshop for the countries in ex-Yugoslavia was organized in Sarajevo as part of an FAO land consolidation project. Later in 2013, a workshop on land market development and land consolidation was held in Skopje, with funding from the EU TAIEX programme and FAO. Finally, the most recent regional land consolidation workshop on land consolidation was organized in Belgrade in June 2014 and funded by GIZ, EU and FAO. Future workshops will depend on the availability of funding.

A remarkable network of land professionals has been created and maintained through the many workshops. From 2007, the workshops organized by FAO became linked with the work carried out under the project “Future Approaches to Land Development” (FARLAND), which was implemented during 2005-2007.⁷⁶⁶ That project was funded by the EU under the Interreg IIIC programme and focused on the exchange and dissemination of best practice in land development and connected issues, including land consolidation and land banking, between seven countries and regions; Lithuania, Hungary, North Rhine-Westphalia (Germany), Netherlands, Flanders (Belgium), Galicia (Spain) and Portugal. Best practices and innovations were identified through presentations, field visits, workshops and discussion panels. Since 2011, the overall initiative has become known as “LANDNET” and in principle it is open to land management experts throughout Europe.⁷⁶⁷

⁷⁶⁶ Van der Jagt, P. et al. (edt.). (2007): *Far Land Near Future*. FARLAND.

⁷⁶⁷ Van Holst, F., Eberlin, R. and Onega Lopez, F. (2014): *LANDNET and land market issues in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2014, p. 188-189.

7.8 CRITIQUE OF STATE-LED LAND CONSOLIDATION PROGRAMMES IN CENTRAL AND EASTERN EUROPE

As mentioned in section 7.1, few comparative papers exist on the introduction of land consolidation and land banking instruments in Central and Eastern Europe since the beginning of the 1990s. A number of case studies of one or more countries have been conducted, however, and over the years a group of academics has critiqued and expressed concern on the development of land consolidation programmes in Central and Eastern Europe that draw on Western European experience. In this chapter, the critique will be addressed in the light of the analysis and lessons learned of the experiences with land consolidation and land banking in sections 7.4, 7.5 and 7.6.

Based on studies of land reform and land fragmentation in Albania, Romania and Bulgaria, Sabates-Wheeler argued in 2002 that government-led land consolidation efforts were most likely to fail because the new focus on land consolidation in the region, in her understanding, would focus on only one of at least four dimensions of land fragmentation: i) physical fragmentation, ii) social fragmentation, iii) activity fragmentation and iv) ownership fragmentation.⁷⁶⁸ In her understanding, physical fragmentation has basically the same meaning as land fragmentation in the classical Western European tradition.⁷⁶⁹ She argued that social fragmentation was an equally important dimension of fragmentation: social fragmentation is understood as a separation between those who own the land and those who are able to work it, a situation that happened often in countries where land was restituted to former owners. A third dimension is activity fragmentation, which refers to a situation whereby the complementary means of production around land use become fragmented from each other: in some countries land reform led to mismatches between the small size of holdings and large-scale irrigation systems, large-scale machinery (where many new farmers have limited access to suitable equipment), etc.

Sabates-Wheeler predicted that land consolidation strategies and programmes being introduced in Central and Eastern Europe with the support of international development organizations and donors would be likely to fail because they only consider one dimension of fragmentation, i.e. physical fragmentation. A reference is made to “The Munich Statement on land consolidation as a tool for rural development in CEE / CIS countries” from early 2002 (section 7.7.1). Sabates-Wheeler recognized that the new land consolidation approaches, as they appear in

⁷⁶⁸ Sabates-Wheeler, R. (2002): *Consolidation initiatives after land reform: Responses to multiple dimensions of land fragmentation in Eastern European agriculture*. Journal of International Development no. 14, 1005 – 1018.

⁷⁶⁹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 336.

the Munich Statement are participatory, demand-driven and market-led, and so are an improvement compared to the approaches applied from the 1950s to the 1970s. However, she also anticipated that formal land consolidation via land markets is not a feasible possibility in the short, or even medium, term. Formal methods of physical land consolidation would not be attractive to the majority of land users unless they were provided in a larger development framework that removes other constraints to production.⁷⁷⁰

Van Dijk conducted a comprehensive study of land fragmentation and land consolidation in Central and Eastern Europe with detailed case studies of Bulgaria and Hungary that drew comparisons with land consolidation and land banking instruments applied in the Netherlands and Germany.⁷⁷¹ He concluded that an immediate market-driven improvement of the fragmentation, and thus an efficient farm structure, would be unlikely to happen in Central and Eastern Europe and that additional policy instruments would be needed to address the problems.⁷⁷² When analysing which instruments to apply in Central and Eastern Europe, van Dijk found that land consolidation would not be suitable because it specifically addresses the division of a farmer's property into separated parcels and he argued that land consolidation *per se* is not suitable for improving farm-size.⁷⁷³ The relevant policy instrument should correspond to the particular nature of the land fragmentation in the area. As a result, the region needs its own unique approach due to its very specific circumstances and there are several characteristics of Central European agricultural land that collide with the established Western European principles and practice of land consolidation. Van Dijk saw Central European land fragmentation mainly as a matter of farm-size and so in his view, land banking would be the instrument that best addresses this type of fragmentation and, therefore, would be the best match with the fragmentation in the region in the short term.⁷⁷⁴ For van Dijk and Kopeva, the state agricultural land remaining after land reform held a unique possibility of improving farm structures through land banking. Land from the land bank should be either sold or leased to local farmers and hence used to increase holding and farm sizes. When van Dijk concluded that land consolidation is not the most suitable instrument to address the problems in Central and Eastern Europe, it can be argued that it is

⁷⁷⁰ Sabates-Wheeler, R. (2002): *Consolidation initiatives after land reform: Responses to multiple dimensions of land fragmentation in Eastern European agriculture*. Journal of International Development no. 14, 1012 – 1013.

⁷⁷¹ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon.

⁷⁷² Van Dijk, T. (2006): *Complications for traditional land consolidation in Central Europe*. Geoforum 38 (2007), 505 – 511.

⁷⁷³ *Ibid.*, p. 507.

⁷⁷⁴ Van Dijk, T. and Kopeva, D. (2004): *Land banking and Central Europe: future relevance, current initiatives, Western European past experience*. Land Use Policy 23 (2006), p. 290-92.

because he perceived land consolidation along the lines of the Dutch and German traditions which typically do not facilitate farmers in increasing the size of their holdings.

Sikor et al. critiqued the agenda of governments in the region as well as FAO for state-led land consolidation based on research on land fragmentation and cropland abandonment in Albania.⁷⁷⁵ They found that programmes that centred on legal and administrative interventions by the state are unlikely to achieve their stated objectives as they fail to take account of broader socio-economic dynamics affecting agriculture and villagers. Land policy should thus support desirable adaptations by local communities such as decentralized approaches to land banking, and a focus should be on community-led development strategies with the state in a more supportive role.

Finally, Cartwright argued in a recent book chapter that the Central and Eastern European “programme” to bring about rural reform based on land consolidation since the 2002 Munich Statement has largely failed and concludes: “As for land consolidation, with its promise of fewer owners and fewer boundaries, there was little sign of any remaining appetite.”⁷⁷⁶ His conclusions are based on studies of the proceedings from the FAO and LANDNET workshops from 2002 and onwards as well as his own participation in some of the more recent workshops. Among the reasons for failure of land consolidation, Cartwright identified the excessive land registration problems in the region with informal land transactions taking place, unknown and absent landowners, weak land markets and difficulties in raising capital to develop the farm business, as well as fear among local stakeholders of losing their land rights in land consolidation projects. He found the participation rate of landowners in land consolidation pilots to be low, thus indicating a lack of interest among the local stakeholders, and he states that: “the number of landowners volunteering to participate was often short of the magical 51 percent”.⁷⁷⁷ Cartwright further noted that the results of funding land consolidation activities under the national RDPs was disappointing with the proof that only the Czech Republic and Slovakia included a land consolidation support measure in the SAPARD pre-accession rural development programmes.

We can now compare these predictions and the assessment of failure of state-led land consolidation in the region with this current analysis of what has actually

⁷⁷⁵ Sikor, T. (2009): *Land fragmentation and cropland abandonment in Albania: Implications for the role of state and community in post-socialist land consolidation*. World Development Vol. 37, No. 8, 1411 – 1423.

⁷⁷⁶ Cartwright, A. (2014): *None of us could have been against consolidation in principle: A short history of market and policy failure in Central Eastern Europe*. Book chapter in Dawson, A. et al (edt.): *Negotiating Territoriality: Spatial Dialogues Between State and Tradition*. Routhledge Studies in Anthropology, 65-77.

⁷⁷⁷ *Ibid.*, p. 71.

been going on in regard to land consolidation and land banking over the last 25 years. First, both Sabates-Wheeler and van Dijk drew their conclusions in the early and middle 2000s, a decade ago, when the experience of land consolidation projects and pilots was limited to Central European countries, such as the Czech Republic, Slovakia, Poland and Slovenia. At that time few experiences of the donor-funded technical assistance projects had been documented and disseminated into wider circles. Sabates-Wheeler is right, of course, that land consolidation which is understood as stand-alone re-parceling will not solve the numerous tangled development constraints for agriculture in the region. The conclusions of Sikor et al. that state-led land consolidation initiatives fail to take account of broader socio-economic dynamics coincide with those of Sabates-Wheeler. This critique shows the importance of integrating land consolidation instruments with the local needs for rural development and the involvement of the local stakeholders in a participatory process. Countries such as Czech Republic, Slovakia and Eastern Germany have very good experiences in developing the so-called “plan of common facilities” as an integrated part of the land consolidation process (section 7.4.8). These plans can be regarded as local “community development plans” and similar plans were often successfully prepared in land consolidation pilot projects in a number of countries such as Albania, Armenia, Bosnia and Hercegovina, Moldova and Serbia. Even though land consolidation may have been initiated at the state level, this has not excluded the local development strategies to be community-led – quite the contrary. Hence, the critique is found to be misunderstood.

As mentioned above, van Dijk found that land consolidation in the Central and Eastern European context is not a suitable instrument because land consolidation, in his understanding, addresses only the land fragmentation problem in the narrow sense of consolidating scattered land parcels and not the problem of small holding and farm sizes. The methodological problem of the analysis and conclusions of van Dijk are that his references are to comprehensive land consolidation instruments in the Netherlands and Germany where the landowners, at the end of project, usually get land of the same value with which they entered the process. Thus, what he meant appears to be more precisely that comprehensive and compulsory land consolidation instruments, as applied traditionally in Netherlands and Germany, are not suitable for the transition countries, and one might suggest that van Dijk indirectly argued for a tailor-made voluntary land consolidation approach.⁷⁷⁸ However, with regard to achieving a goal of creating economically viable and competitive farms, van Dijk is right that the small holding and farm sizes in the region are as important a constraint for agricultural development as those constraints caused by fragmentation of

⁷⁷⁸ Van Dijk, T. (2006): *Complications for traditional land consolidation in Central Europe*. Geoforum 38 (2007), p. 509.

landownership and land use. The analysis in section 7.4 of countries with ongoing land consolidation programmes shows that the potential to use land consolidation instruments to facilitate structural development towards larger holding and farm sizes has not been reached in the five countries with compulsory land consolidation approaches (section 7.4.8). On the contrary, in the Lithuanian land consolidation programme, the reduction in land fragmentation and the increase in holding sizes are two parallel aims pursued at the same time. In the analysis of section 7.5, several examples are shown of land consolidation projects where participating agricultural holdings have increased the size of owned land as an outcome of the projects. Among these are projects in Armenia, Bulgaria, Croatia and Moldova.

Van Dijk found land banking to be a more suitable instrument than land consolidation in the Central and Eastern European context. This current analysis shows that there are many good examples of countries where state agricultural land is used as a buffer to improve local farm structures through lease agreements but there are only a few good examples, such as Poland, Hungary and Eastern Germany, where the state land funds are actively engaged in improving local holding and farm structures through the selling of state agricultural land to eligible groups with priority, such as family farmers. In many Western European countries, land consolidation instruments are often supported by state land banks (see section 7.3.2). As discussed in sections 7.4.8 and 7.5.14, land banking in this sense has largely failed in Central and Eastern Europe, including in the countries with ongoing land consolidation programmes and large reserves of available state agricultural land. The use of state land banks for the objective of structural development in agriculture, without having a land consolidation instrument in parallel, is limiting the outcome of the land banks. In the same way, running a land consolidation programme, at least with a voluntary approach, is often difficult without having a state land bank to support it.

Cartwright argues that land consolidation initiatives have largely failed and that there is little interest in the countries to continue along this path. The analysis in sections 7.4 and 7.5 provides alternative views. Only five out of the countries of the region have little or no experience with land consolidation and, in three (Montenegro, Georgia and Azerbaijan), the interest in land consolidation is reported to have increased. Seven countries have developed ongoing land consolidation programmes and plan to continue these programmes in the years to come. Finally, it is possible that some additional countries will have operational programmes in the near future (section 7.5.14).

Cartwright is correct that the development of the rural land markets in most countries is hampered by numerous constraints and that land markets in general remain weak. As discussed in section 7.5, land consolidation instruments can play

an important role in developing land markets where the solving of existing land registration problems is well integrated in the land consolidation process. Cartwright finds the participation rate in land consolidation pilots often to be low and difficult to reach a participation level of 51 percent. First, all land consolidation pilots have been voluntary with the exception of the Dutch-supported project in Estonia in the late 1990s and the ongoing GIZ pilots in Serbia. Thus, a threshold of 51 percent is not relevant as each stakeholder decides whether or not to participate based on the outcome of the re-allotment planning. Second, pilots are almost always implemented before the legal framework for land consolidation is adopted in the country and low final participation rates are often caused by the land registration problems. The solution should be to develop land consolidation legislation that ensures flexible and cost-effective procedures. Albania is a good example where 84 percent of the landowners in the pilot villages indicated interest in participation but only a few were able to conclude transactions because of the complicated and time-consuming procedures, in combination with low land mobility (see section 7.5.10). Many other land consolidation pilots (see section 7.5) have shown that between 70 and 80 percent of the landowners interviewed in the initial stages of the projects were interested in participating. Finally, Cartwright also finds that funding of land consolidation activities under the RDP has failed because only the Czech Republic and Slovakia were able to fund land consolidation from the SAPARD pre-accession programme during 2002-2006. However, RDP funding is only relevant when the country has an operational land consolidation programme and only those two countries were ready in 2002. Today, the six EU member countries with programmes fund land consolidation from the RDP and Croatia and Romania plan to do the same when they are ready to launch their programmes.

7.9 CONCLUSIONS AND PERSPECTIVES

A quarter of a century after the Berlin Wall fell in autumn 1989 and the beginning of transition, most Central and Eastern European countries have been through a remarkable land reform process with restitution or distribution of state agricultural land. Most countries suffer from excessive fragmentation of landownership and many also from fragmentation of land use, which has occurred sometimes as a side effect of the land reform process and sometimes it has been historically determined. Most countries have introduced land consolidation instruments, driven first by the need to address the problem of land fragmentation. Based on the analysis and discussions in sections 7.4, 7.5 and 7.6, we can now verify the initial categorization shown in table 7.1 (see section 7.2). The status of development of land consolidation programmes is displayed in figure 7.7. Seven countries have ongoing programmes and there are 13 cases where land consolidation has been introduced, often through pilots, but there is not yet a programme. Finally, five countries have so far had little or no experience.

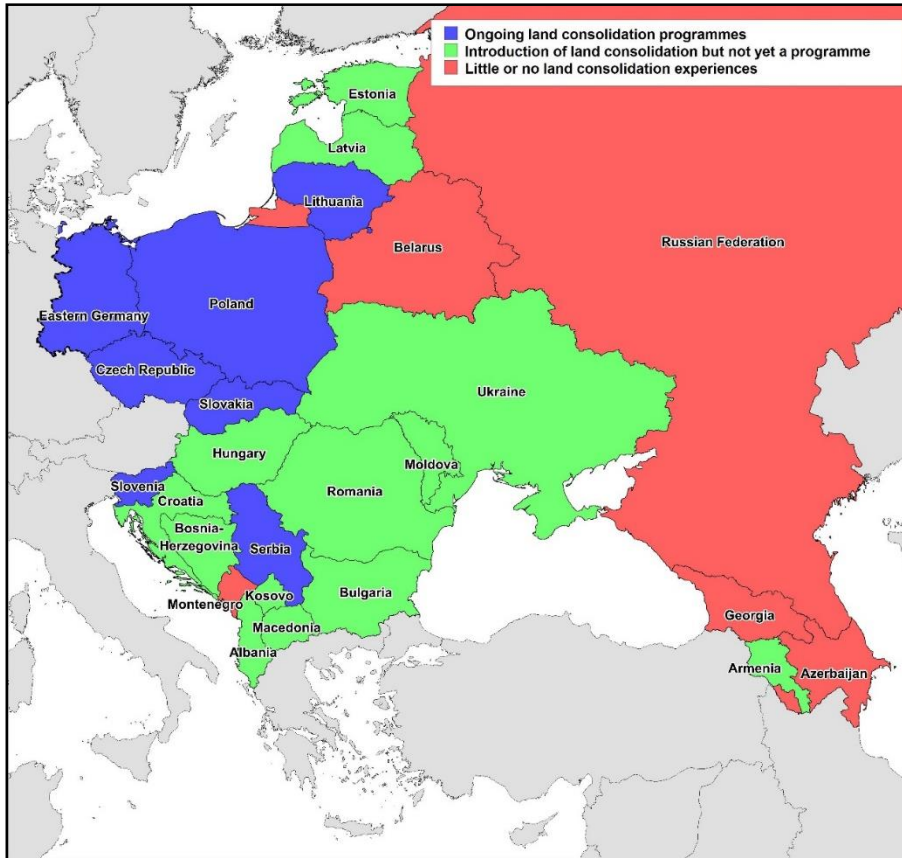


Figure 7.7: Status of the development of land consolidation in Central and Eastern Europe shown in three categories (October 2014).

In addition, we are now also able to further assess the perspectives among the second category. In figure 7.8, the large category with experience but not yet a programme are divided into two sub-categories, i) those where land consolidation instruments are currently under active preparation (yellow) and ii) those where at the moment progress is slower or on stand-by (green).

In five cases (Latvia, Bulgaria, Croatia, FYR Macedonia and Kosovo), work is currently on the final preparation of land consolidation programmes, which could be operational in the near future, perhaps within five years if the preparation proceeds as intended. The progress in each of these cases is displayed in table 7.2 (see section 7.5.14). In the near future, the authorities in Kosovo will finalize the ongoing voluntary pilot. In Latvia and the FYR Macedonia, additional pilots are planned to test and, where necessary, revise the new legal framework before

scaling up to a full programme. In Croatia, it is likely that additional pilots will be needed and in both Bulgaria and Croatia much will depend on how land consolidation is integrated in the new RDP for 2014-2020 as the funding is still unclear in these countries.

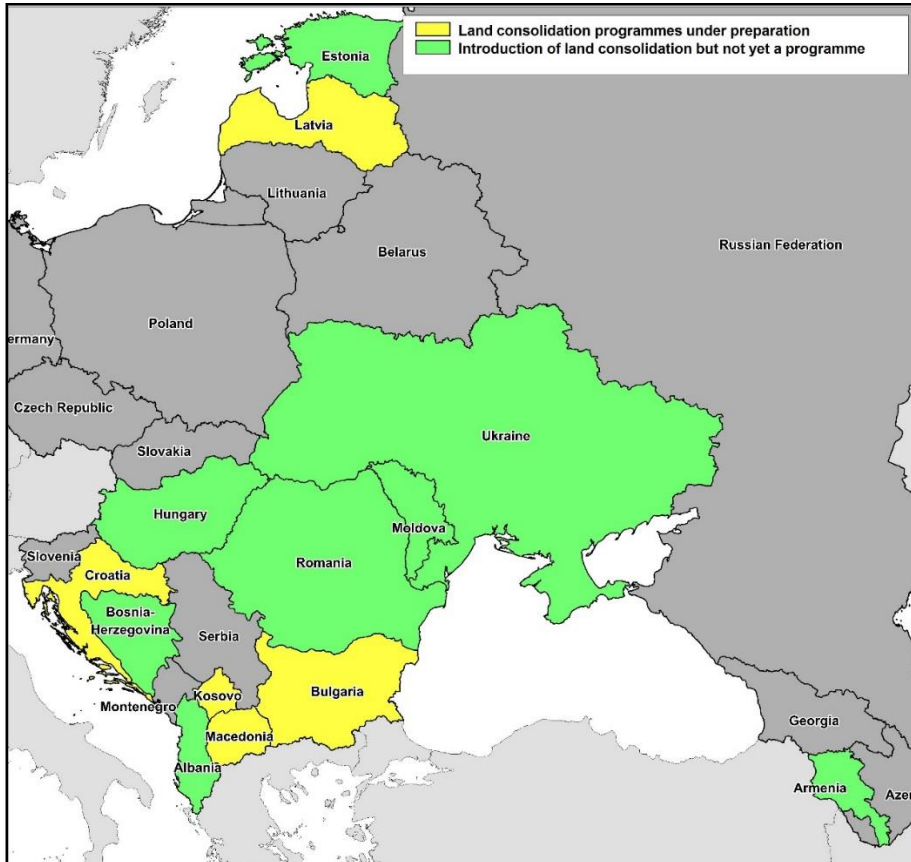


Figure 7.8: Status of the development of land consolidation in Central and Eastern Europe. In five cases, operational programmes could be expected within the near future.

If things go well, a number of the remaining countries, such as Estonia, Albania, Moldova and Romania, may be close to having an operational programme within the same timeframe or a few years later. They have all finalized land consolidation pilots and now need to take further steps towards a programme with adoption of a legal framework, capacity development and perhaps additional pilots as a final test. Most of these countries might be expected to request further international technical assistance to set up the programmes.

In total, more than 50 international donor-funded technical assistance projects have supported the introduction of land consolidation instruments in Central and Eastern Europe from the middle of the 1990s and onwards. Certainly not all have been large scale, e.g. with field activities in the form of small pilots, and some have been relatively small studies. However, it is clear that only few countries would have been where they are today without international technical assistance. In this context it can be observed that countries have, in a certain period, an “open window” to attract donor funding for land consolidation, as well as other projects, before they become members of the EU. After EU accession, it is often difficult for the countries to fund such development activities as donors usually close down support at the time of EU accession. For various reasons, countries such as Latvia, Estonia, Croatia and Romania were not able to make land consolidation programmes operational before membership of the EU and they are now facing difficulties in finding international support for land consolidation.

As mentioned in the delimitation of the study in section 7.2, it is not within the scope to provide a detailed evaluation of the outcome of the land consolidation efforts in Central and Eastern Europe during the past 25 years in terms of increased productivity of farms that participated in land consolidation projects. It is remarkable that so few efforts have been spent on evaluation of the outcome of land consolidation programmes and projects in the countries in terms of increased productivity and competitiveness. Further research is needed in this field and the overview and platform provided in this paper can hopefully be of use. In general, one should, of course, be careful with evaluation of the outcome of pilots simply because they are pilots.

The only example of an impact assessment of a land consolidation pilot project known to the author is the World Bank-Sida Agrex study in Moldova which evaluated the outcome of land consolidation pilots in six villages under the “Moldova land re-parceling pilot project”.⁷⁷⁹ This current study has documented that many countries with ongoing land consolidation programmes, especially those with a compulsory approach, are not using the potential of land consolidation instruments to facilitate the structural development towards larger agricultural holdings and farm sizes, which is also needed to increase productivity and make farms competitive in the globalizing economy. Thus, it is important that the development of land consolidation instruments in the countries that do not yet have a programme has an equal focus on addressing land fragmentation and small holding and farm sizes. In this context, the RDP has an important role to play in supporting investments in new rural jobs beyond those of agricultural production.

⁷⁷⁹ Agrex. (2011): *Impact assessment of the land re-parcelling pilot project in 6 villages*. Rural Investment and Services Project II. World Bank.

The establishment of land banks in Central and Eastern Europe was discussed in sections 7.4.8, 7.5.14 and section 7.8 and a conclusion is that land banking instruments, as compared with land consolidation instruments, have largely failed throughout the region, at least as a tool to support land consolidation instruments by making state land available for the re-allotment process and hence increase land mobility. This is remarkable alone due to the fact pointed out by van Dijk (see section 7.8) that many countries in the region have a large stock of state land remaining after the finalization of land reform, which represents a unique possibility for improving farm structures through land banking. This is even more true when land banking and land consolidation instruments are combined. Experiences from both land consolidation programmes and pilots show that land consolidation projects, especially in a voluntary approach, are often hampered by low land mobility. The failure of land banking is first and foremost a failure in the overall land policy in the countries and a lack of coordination between land consolidation agencies and agencies managing the state agricultural land. There is a need for policy recommendations on land banking in support of land consolidation instruments and for gaining more field experiences with the combination of land consolidation and land banking in the context of Central and Eastern Europe.

The analysis above, as well as that in sections 7.4.8, 7.5.14 and 7.6.6, has answered the research questions formulated in the introduction and we can look deeper into the needs and perspectives for further development of land consolidation and land banking instruments in Central and Eastern Europe. The region has not yet fully found its own approaches to land consolidation and the instruments which, to a large degree, can be traced back to the Western European countries where they were inspired, i.e. land consolidation in Czech Republic and Slovakia is closely related with the German tradition and land consolidation in Lithuania with the Danish approach. In principle, there is nothing wrong in learning from the Western European experience. It is, however, remarkable how often the Central and Eastern European countries have ended up choosing between either a comprehensive and compulsory land consolidation model or a simple and voluntary model. FAO, in its field projects in Armenia, Serbia, Albania and Bosnia and Herzegovina, has applied a voluntary approach but in an integrated local rural development context and the same has been applied in the World Bank-Sida pilots in Moldova. The study has revealed the need to further develop a third model for land consolidation in Central and Eastern Europe, which would borrow from both classical models and which could be entitled “integrated voluntary land consolidation”. In most of Central and Eastern Europe, land consolidation on the lines of this model would benefit greatly from the support of a land banking instrument.

REFERENCES

- ACE Project (1999): The Development of Land Markets in Central and Eastern Europe – Final Report.
- ACSA (2010): Agricultural Land Re-Parceling Project in 40 villages. Activity Report, 1 October 2010 – 31 December 2010. National Agency for Rural Development (ACSA).
- Agrex (2011): Impact Assessment of the Land Re-Parceling Pilot Project in 6 Villages (Moldova). Rural Investment and Services Project II. World Bank.
- Arka News Agency (2011): Armenian government approves farm consolidation concept. Weblink: <http://arka.am/en/news/economy/28894/> (visited 27 September 2014).
- ARGE Landentwicklung (2012): Guidelines for Rural Development. Prepared by Bund – Länder – Task Force for Sustainable Rural Development.
- Augutiene, J. (2014): Lithuanian Experiences with a National Land Consolidation Program 2005-2013. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.
- Binns, B. (1950): The Consolidation of Fragmented Agricultural Holdings. FAO.
- Bloch, P. (1998): Picking up the pieces – consolidation of Albania's radical land reform. In Wegren (edt.): Land reform in the former Soviet Union and Eastern Europe.
- Budanko Penavic, A. and Medic, Z. (2005): The first wave of agricultural reform in Croatia. Paper for FAO regional land consolidation workshop in Prague.
- Budanko Penavic, A. and Pupacic, M. (2006): Land consolidation in Croatia. Paper for FAO regional land consolidation workshop in Prague.
- Bukvic, J. et al. (2013): Ravno Land Consolidation Pilot Project – Baseline Report (Bosnia and Herzegovina). Unpublished project document. FAO.
- BVVG (2004): Institutional, organizational and legal framework for the lease and sale of state owned agricultural land in the Republic of Lithuania – Final Report. EU Twinning Light Project.
- Cartwright, A. (2014): None of Us Could Have Been Against Consolidation in Principle: A Short History of Market and Policy Failure in Central Eastern Europe. Book chapter in Dawson, A. et al (edt.): Negotiating Territoriality: Spatial Dialogues Between State and Tradition. Routledge Studies in Anthropology, 65-77.
- Ciaian, P. et al., (2012): Sales Market Regulations for Agricultural Land in the EU Member States and Candidate Countries. Factor Markets Working Paper no. 14.

- Chluba, K. and Schmidt-Kallert, E. (2001): Strategy for Land Consolidation and Improved Land Management in Armenia – Pre-Feasibility Study. FAO.
- Cihal, L. (2006): Remarks on the Land Consolidation in the Czech Republic. Paper for FAO Prague land consolidation workshop.
- Cunga, A. and Swinnen J. (1997): Agricultural privatization, land reform and farm restructuring in Albania. In Swinnen, J. et al. (edt.): Agricultural Privatisation, land Reform and Farm Restructuring in Central and Eastern Europe. Ashgate.
- Danish Ministry of Food, Agriculture and Fisheries (1999): Brief report on Pilot project in land consolidation (Latvia) – Phase 2.
- Danish Ministry of Food, Agriculture and Fisheries (2002): Land Exchange project Gauja National Park Latvia – Completion Report.
- Daugaliene, V. and Leimontaite, G. (2008): Land consolidation and its nearest future in Lithuania. Paper for FAO regional land consolidation workshop in Prague.
- Deininger, K. et al. (2012): Land Fragmentation, Cropland Abandonment, and Land Market Operation in Albania. The World Bank.
- DLG (2000): Improving Land Consolidation System. Project fact sheet.
- DLG and Arcadis (2001a): Integrated drainage and land development pilot in Estonia – Project completion report.
- DLG and Arcadis (2001b): Integrated drainage and land development pilot in Estonia. Project brochure.
- DLG (2005a): Technical Report on the Institutional Aspects of Land Development in Podkarpackie Province, Poland.
- DLG (2005b): Pilot Projects Land Consolidation Grodzisko Górne and Grodzisko Dolne, Podkarpackie Province, Poland - Technical Report.
- DLG (2005c): Technical Assistance for Land Consolidation in Hungary (TALC) – Progress Report for the period January – May 2005 and Project Completion Report.
- DLG and Ministry of Agriculture Lithuania / National Land Service. (2006): The manual on environmental impact assessment in relation to land consolidation.
- DLG (2009): EMERALD project - Final Report (FYR of Macedonia).
- DLG (2011): Guiding the land market by land banking. Brochure on land banking.
- DLG and SNV (2012): STIMERALD project - Piloting Land Consolidation in Konce (FYR of Macedonia).
- DLG (2013): CATAPULD Completion Report (Ukraine).
- Drees, A. and Sünderhauf, R. (2006): Land Consolidation as a Tool for Flood Prevention. Paper for FIG congress in Munich.
- Drinjak, R. et al. (2013): Dracevo Land Consolidation Pilot Project – Baseline Report (Bosnia and Herzegovina). Unpublished project document.

- Dudwick, N. et al. (2005): A Stocktaking of Land Reform and Farm Restructuring in Bulgaria, Moldova, Azerbaijan and Kazakhstan.
- Econet Romania. (2014): New law regarding the sale and purchase of agricultural lands. Weblink: <http://www.econet-romania.com/en/single-news/589/new-law-regarding-the-sale-and-purchase-of-agricultural-lands.html>.
- Egiashvili, D. (2005): Aspects of land consolidation in Georgia. Paper for FAO regional land consolidation workshop in Prague.
- Eskildsen, K. et al. (2006): Policy Support for Land Consolidation – Final Report (15 December 2005 – 15 November 2006) (Europeaid/120518/D/SV/RO).
- ETC-DLG-LRS (2005): Support for Institution Building in Rural Development in Pilot Regions in Poland – Completion Report.
- European Commission (1999): An Evaluation of PHARE Financed Agricultural Reform Programmes in the Candidate Member States – Final Report. Prepared by FAI Ltd. /ADE for the EC.
- FAO (2003): The design of land consolidation pilot projects in Central and Eastern Europe. FAO Land Tenure Studies 6. Rome.
- FAO (2004a): Operations manual for land consolidation pilot projects in Central and Eastern Europe. FAO Land Tenure Manuals no. 1. Rome.
- FAO (2004b): Support to the Preparation and Implementation of Land Consolidation and Improved Land Management Schemes (Armenia) (TCP/ARM/3004). Unpublished project document.
- FAO (2004c): Support to the development of a strategy for territorial organization and sustainable land management in areas with high natural disaster risk (TCP/HUN/3202). Unpublished project document.
- FAO (2005): Support to Preparation of a national Land Consolidation strategy and a land consolidation pilot project in Serbia (TCP/YUG/3001). Unpublished project document.
- FAO (2006): Support to the preparation of an operational land consolidation system in Lithuania (TCP/LIT/3101). Unpublished project document.
- FAO (2007): Good governance in land tenure and administration. FAO Land Tenure Studies 9
- FAO (2008): Opportunities to mainstream land consolidation in rural development programmes of the European Union. FAO Land Tenure Policy Series 2. Rome.
- FAO (2010): Support to the Preparation of a National Land Consolidation Strategy and a Land Consolidation Pilot Project (TCP/ALB/3301). Unpublished project document.
- FAO (2012a): Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security. Rome.

- FAO (2012b): Assessment of the Agriculture and Rural Development Sectors in the Eastern Partnership countries – Republic of Belarus. Study funded by the European Union
- Flachner, Z. (2007a): Land consolidation in Hungary: Lessons learned from the Bereg FAO pilot project. Paper for FAO regional land consolidation workshop in Prague.
- Flachner, Z. (2007b): Land consolidation in Hungary: Lessons learned from the Bereg FAO pilot project. Powerpoint presentation for FAO regional land consolidation workshop in Prague.
- Flachner, Z. (2008): Participatory Micro Regional Development in Areas with High Risk – The Bereg Landscape – FAO TCP Project (TCP/HUN/3002) – Final Report. FAO.
- Gashi, I. and Karrica, M. (2013): Experiences with land consolidation and future perspectives in Kosovo. Powerpoint presentation held at FAO regional land consolidation workshop in Sarajevo.
- Georgieva, A. (2005): Land consolidation models: The World bank experience in Bulgaria. Paper for 4CLI land consolidation workshop in Budapest.
- GFA Consulting Group et al. (2008): Agricultural Land Utilisation Project – Project Completion Report (Kosovo).
- GFA Consulting Group et al. (2012): Further Support to Land Use – Final Project Completion Report (Kosovo).
- Giovarelli, R. and Bledsoe, D. (2001): Land Reform in Eastern Europe. FAO.
- Government of the Republic of Moldova. (2011): National Strategy for Land Consolidation (unpublished final draft version).
- Government of the Republic of Armenia. (2011): Armenia Farm Consolidation Concept (Unofficial translation).
- Haldrup, N. et al. (2003): Land consolidation and land tenure assessment mission, Republic of Serbia – Pre-feasibility study. FAO.
- Hartvigsen, M. (2004): Danish – Lithuanian Land Consolidation Pilot Projects in Lithuania. Paper for FAO Land Bank workshop in Tonder, Denmark.
- Hartvigsen, M. (2006): Land Consolidation in Central and Eastern European Countries. Conference paper for FIG Congress, Munich 2006. Weblink: https://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCkQFjAA&url=https%3A%2F%2Fwww.fig.net%2Fpub%2Ffig2006%2Fpapers%2Fts71%2Fts71_04_hartvigsen_0882.pdf&ei=nmL7U5yBGIjMyAPNz4LYBQ&usq=AFQjCNFxtUw6OopX7HxZ8HgpFQh7oHPVwg&sig2=N_m5qvngGQvVEJ6R3-O1ng
- Hartvigsen, M. (2009): Moldova Land Re-Parceling Pilot Project – Final Report. Niras, Orbicon, ACSA and Terra Institute. World Bank, Rural Investment and Services Project II.

- Hartvigsen, M., Gorgan, M. and Palmer, D. (2013): Experiences with Land Reform and Land Consolidation in Moldova. *FAO Land Tenure Journal* nr. 2/2012, 6-37. Weblink: <http://www.fao.org/nr/tenure/land-tenure-journal/index.php/LTJ/article/view/59>
- Hartvigsen, M., (2013a). Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation. *FAO Land Tenure Working Paper* 24. Web link: <http://www.fao.org/docrep/017/aq097e/aq097e.pdf>
- Hartvigsen, M. (2013b). Land Reform and land fragmentation in Central and Eastern Europe. *Land Use Policy* 36 (2014), 330-341. Weblink: <http://www.sciencedirect.com/science/article/pii/S026483771300166X>
- Hartvigsen, M. (2014a): Land Mobility in a Central and Eastern European Land Consolidation Context. *Nordic Journal of Surveying and Real Estate Research*. Volume 10, Number 1, 2014. Weblink: <http://ojs.tsv.fi/index.php/njs/article/view/41460>
- Hartvigsen, M. (2014b): Land consolidation and land banking in Denmark – tradition, multi-functionality and perspectives. *Danish Journal of Geoinformatics and Land Management*, Year 122, Vol. 47, 1-7 (2014). <http://www.journals.aau.dk/index.php/tka/article/view/987>
- Ivanoski, P. (2013): Land consolidation in Macedonia. Powerpoint presentation for FAO regional land consolidation workshop in Sarajevo, February 2013.
- Jansen, L. (2012): Improvement of agricultural production in Romania by improvement of land administration, land consolidation and more efficient farms – Study on land consolidation. ANCP, Kadaster and DLG.
- Jansen, L. (2013): Voluntary parcel exchanges in Romania. Note on project in Abroad – periodical newsletter of Kadaster International March 2013, Netherlands.
- Juskova, K. and Muchova, Z. (2013): Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation. *MendelNet* 2013.
- Jürgenson, E. (2014a): Overview of Land Consolidation in Estonia. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.
- Jürgenson, E. (2014b): land reform and land fragmentation in Estonia. Paper for PhD course at Aalborg University, May 2014.
- Kasabov, M. (2005): Land consolidation and territorial organization in Bulgaria. Paper for FAO regional land consolidation workshop in Prague.
- Kaugure, L. and Pijunovic, V. (2014a): Community Development Plan for Trncina (Ravno) Pilot Area. Unpublished project document.
- Kaugure, L. and Pijunovic, V. (2014b): Community Development Plan for Dracevo Pilot Area. Unpublished project document.

- Kaulich, K. (2013): Importance and Prospect of Land Consolidation in the Czech Republic. *ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement* 3/2013.
- Keith, S. et al. (2009): Options for the management of state land in rural areas of The former Yugoslav Republic of Macedonia. *Land Reform 2009/1*. FAO.
- Kopeva, D. et al. (2002): Land Fragmentation and Land Consolidation in the Agricultural Sector – A case study from Bulgaria. FAO.
- Kovandova, M. (2006): Could the Land Consolidation Process Be an Effective Tool for Nature and Environmental Protection in the Czech Republic? Conference paper for FIG Congress in Munich.”
- Kovacs, E. and Ossko, A. (2004): Land consolidation in Hungary – dream or reality? In van der Molen, P. and Lemmen, C. (edit): Proceedings of a Symposium held by FIG Commission 7 on 10 and 11 September 2004 in Volvic, France.
- Kozłowski, J. and Zadura, A. (2007): Land consolidation and exchange works in Poland: statute, experiences and priorities. Paper presented at FAO regional land consolidation workshop in Prague.
- Kvale, S. and Brinkmann, S. (2009). Interviews – Learning the Craft of Qualitative Research Interviewing. SAGE Publications.
- Kupidura, A. (2010). Management of the agricultural landscape in land consolidation projects in Poland. *The Problems of Landscape Ecology*, Vol. XXVIII, 163-169.
- Kupidura, A. et al. (2014). Public perceptions of rural landscapes in land consolidation procedures in Poland. *Land Use Policy* (2014).
- Leimontaite, G. (2013): Land Consolidation in EU Rural Development Policy in Lithuania. Powerpoint presentation for FAO land consolidation workshop in Skopje.
- Law on Land (Lithuania) (2010), chapter IV.
- Law No. 04/L-040 on Land Regulation adopted in February 2012 (Kosovo).
- Law on consolidation of agricultural land (FYR of Macedonia) adopted in December 2013.
- Leenen, H. (2014). Land Development in The Netherlands. *ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement* 3/2014.
- Lerman, Z. et al. (2004a): Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries. Lexinton Books.
- Lerman, Z. et al. (2007): Rethinking agricultural reform in Ukraine. IAMO and FAO.
- Lisec, A. (2012): Unpublished notes on land reform and land restitution in Slovenia.
- Lisec, A. et al. (2012): The institutional framework of land consolidation – comparative analysis between Slovenia and Norway. Paper for FIG Working Week, Rome, May 2012.

- Lisec, A. et al. (2014). Land owners' perception of land consolidation and their satisfaction with the results – Slovenian experiences. *Land Use Policy* vol. 38 (2014).
- Louwsma, M. et al. (2014). A New Approach: Participatory Land Consolidation. Paper presented at FIG Congress in Kuala Lumpur.
- Mahir, E. et al. (2014): Land consolidation strategy framework paper. Unpublished project document (Bosnia and Herzegovina). FAO.
- Markuszevska, I. (2013). Land consolidation as an instrument of shaping the agrarian structure in Poland: A case study of the Wielkopolskie and Dolnoslaskie Voivodships. *Quaestiones Geographicae* 32(3).
- Marosan, S. and Knezevic, Z. (2005): The state of land management and land consolidation in Serbia and Montenegro. Paper prepared for FAO regional land consolidation workshop in Prague.
- Marosan, S. et al. (2014): Value framework for evaluation of land banks / funds. *Geodetski Vestnik* Vol. 58, No. 3, 568-577.
- Marosan, M. (2012): Identification of main legal issues important for successful land consolidation in Serbia. Master thesis at KTH, Stockholm.
- Milicevic, D. et al. (2013): The history of land consolidation in Serbia. Paper prepared for the First International Symposium on Agricultural Engineering, 4-6 October 2013, Belgrade, Serbia.
- Ministry of Agriculture (Latvia) (1999): Rural development plan of the European Community support for agriculture and rural development in Latvia (SAPARD).
- Ministry of Agriculture, Forestry and Water Management (2006): Montenegro's Agriculture and European Union – Agriculture and Rural Development Strategy.
- Ministry of Agriculture and Environmental Protection (Serbia) (2007): Land consolidation strategy – Republic of Serbia – final draft.
- Ministry of Agriculture, Forestry and Food (Slovenia) (2007): Rural Development Programme of the Republic of Slovenia 2007-13.
- Ministry of Agriculture (Croatia) (2009): Croatian Agriculture. Information brochure.
- Ministry of Agriculture, Forestry and Rural Development (Kosovo) (2009): Agriculture and Rural Development Plan 2009-13.
- Ministry of Agriculture, Forestry and Rural Development (Kosovo) (2010): Land Consolidation Strategy 2010 – 2020.
- Ministry of Agriculture and Food (Bulgaria) & DLG (2010): Integrated land consolidation project village of Katunet, Lovetch region, Republic of Bulgaria. Project brochure.
- Ministry of Agriculture and Rural Development (Poland) (2013): Land consolidation area in hectares per year 2004-12. Unpublished.

- Ministry of Agriculture, Food and Consumer Protection (Albania) (2013): Albanian National Land Consolidation Strategy (unpublished final draft version).
- Ministry of Agriculture and Rural Development (Romania) (2014): National Rural Development Programme for the 2014 – 2020 period.
- Ministry of Agriculture, Rural Development and Water Management (Albania) (2014): Inter-sectoral strategy for agriculture and rural development in Albania – Final Draft version May 2014 (not yet approved by Council of Ministers).
- Ministry of Agriculture and Rural Development (Montenegro) (2014): Strategy for Development of Agriculture and Rural Areas – Draft version 3.0 July 2014.
- Montenegro Statistical Office (2011): Agricultural Census 2010 – Structure of Agricultural Holdings.
- Muchova, Z. et al. (2012): Process on land consolidation in Slovakia (Case study of Velke Vozokany).
- Muradyan, A. and Pashayan, M. (2008): Land Consolidation Pilot Project in Armenia. Paper for FAO regional land consolidation workshop in Prague.
- Müller, W. et al. (2001): Strategy for land Consolidation and Improved Land Management in Georgia – Pre-Feasibility Study. FAO.
- National Land Service under the Ministry of Agriculture (Lithuania). (2008): National Land Service under the Ministry of Agriculture. Information booklet.
- Noev, N. et al. (2003): The Development of Land Rental Markets in Bulgaria and the former Yugoslav Republic of Macedonia.
- Nordic Consulting Group (NCG) (2009): Pilot Project on Land Consolidation in Croatia – Final Report.
- Onega Lopez, F. (2009): The Land Bank of Galicia. Powerpoint presentation from workshop on land tenure and land consolidation in Santiago de Compostela, Galicia, Spain.
- Opdenakker, R. (2006): Advantages and Disadvantages of Four Interview Techniques in Qualitative Research. FQS – Forum: Qualitative Social Research Volume 7, No. 4, Art. 11, September 2006.
- Ossko, A. and Sebestyen, R. (2005): Land consolidation in Hungary. Paper prepared for FAO regional land consolidation workshop in Prague.
- Overchuk, A., Hansen, L. and Hansen, N. (2005): Developing farm redistribution model in Russia. Paper for FAO regional land consolidation workshop in Prague.
- Palmer, D., Munro-Faure, P. and Rembold, F. (2004): Land consolidation and rural development in Central and Eastern Europe. *ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement* 2/2004.

- Pasakarnis, G. et al. (2012): Rural development and challenges establishing sustainable land use in Eastern European countries. *Land Use Policy* 30 (2013), 703-710.
- Pasakarnis, G. et al. (2013): Factors Influencing Land Consolidation Success: Lessons Learned in Lithuania. In Hepperle, E. et al. (Edt.): *Land Management, Potential, Problems and Stumbling Blocks*. Hochschulverlag.
- Parsova, D and Platonova D. (2012): Current policy developments in land management and land banking. Powerpoint presentation for FAO / LANDnet workshop in Budapest.
- Parsova, D. (2013): Land Abandonment and current policy initiatives on land mobility. Powerpoint presentation held at FAO / LANDnet workshop in Skopje, FYR of Macedonia.
- Parsova, D. (2014b): From pilot experiences to land consolidation framework: the Latvian experience. Powerpoint presentation for Landnet / FAO regional land consolidation workshop in Belgrade, Serbia, in June 2014.
- Parsova, V. and Kapostins, E. (2012): Does land consolidation fit everywhere? Paper from FIG Working Week in Rome.
- Pavlovic, T. (2014): The importance of land consolidation in Serbia. Powerpoint presentation for Landnet / FAO regional land consolidation conference in Belgrade, Serbia.
- Pivcova, J. (2007): Land Consolidation in the Czech Republic and support from EU Funds in 2007-13. Paper for FAO regional land consolidation workshop in Prague.
- Plank, C. (2013): Land Grabs in the Black Earth. In Eade, D. (edt.): *Land concentration, land grabbing and people's struggles in Europe*. Published by the Transnational Institute (TNI) for European Coordination Via Campesina and Hands off the Land network.
- Platonova, D. and Jankava, A. (2011): Research on the Preconditions of Land Consolidation in Rural Districts. *Economic science for rural development* no. 26, 2011, 174-181.
- Platonova, D. and Jankava, A. (2012): Description of land fragmentation in Latvia and its prevention opportunities. Latvia University of Agriculture.
- Polish Land Consolidation Law (1982).
- Ravnikar, L. and Tanko, D. (2005): Land consolidation in Slovenia. Paper prepared for FAO regional land consolidation workshop in Prague.
- Research Institute of Agricultural and Food Economics (2009): Ex post evaluation of the SAPARD programme in the SR (Slovak Republic) – Final Report.
- Rusu, M. et al. (2002): Land fragmentation and land consolidation in the agricultural sector (Romania). FAO
- Safarov, E. (2012): Management of State Land in Azerbaijan. Paper for FIG – FAO workshop on state land management in Budapest.

- Sahlin, Å. And Kalyta, M. (2008.): Development of Real Property Market in the Republic of Belarus. SIDA Evaluation 2008:19.
- Sallaku, F. (2011): Land Consolidation Baseline Survey in Terbuf Pilot Municipality. Unpublished project document. FAO.
- Schmidt-Kallert, E. (2004): A Short Introduction to Micro-Regional Planning. FAO.
- Sabates-Wheeler, R. (2002). Consolidation initiatives after land reform: Responses to multiple dimensions of land fragmentation in Eastern European agriculture. *Journal of International Development* nr. 14, 1005 – 1018.
- Sebestyen, R. (2004): The National Land Fund. Paper for FAO workshop on land banking, Tonder, Denmark.
- Sikor, T. et al. (2009). Land Fragmentation and Cropland Adandonment in Albania: Implications for the Role of State and Community in Post-Socialist Land Consolidation. *World Development* Vol. 37, No. 8, 1411 – 1423.
- Sklenicka, P. et al. (2009): Historical, environmental and socio-economic driving forces on land ownership fragmentation, the land consolidation effect and the project costs. *Agricultural Economics* 55 (2009), 571-582.
- Sproge, K. (2014): Vision of Land Consolidation Process in Latvia. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.
- Stanfield, D. et al. (2004): An Assessment of Property Rights in Kosovo. USAID.
- Stoyanov, K. (2006): New approaches for land consolidation in Bulgaria. Paper for FAO regional land consolidation workshop in Prague.
- Stoyanov, K. (2007): The Bulgarian land consolidation strategy 2007-13 and the share of the Rural Development Programme within the land consolidation process. Paper for FAO regional land consolidation workshop in Prague.
- Stoyanov, K. (2008): Land market, land banking efforts and impact evaluation for land development projects in Bulgaria. Paper for FAO regional land consolidation workshop in Prague.
- Stoyanov, K. (2014): Experiences with voluntary land consolidation projects and rural development programming. Paper prepared for Landnet / FAO regional land consolidation conference in Belgrade, Serbia.
- Swinnen, J. & Mathijs, E. (1997): Agricultural privatization, land reform and farm restructuring in Central and Eastern Europe: A comparative analysis. In Swinnen, J. et al. (Edt.). 1997. *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Swinnen, J. and Vranken, L. (2009): Land and EU Accession – Review of Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate. Centre for European Policy (CEPS).

- Tarelli, I. (2012): The management of state agricultural land in Albania: the role of central and local governments. Paper for FIG / FAO seminar on state land management, Budapest, September 2012.
- Thomas, J. (2004): Modern land consolidation – recent trends on land consolidation in Germany. Paper from FIG symposium on modern land consolidation, Volvic, France.
- Thomas, J. (2006). Attempt on Systematization of Land Consolidation Approaches in Europe. *ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement* 3/2006.
- Thomas, J. (2014): Safeguarding real property rights and rational use by conflicting private and public interests – The German approach. *Geodetski Vestnik* Vol. 58, No. 4/2014, 527-544.
- Travnicek, Z. et al. (2011): Optimization of the Land Offices organization in the Czech Republic. *Agricultural Economics* 57 (2011), 506-515.
- Trnka, J. and Pivcova, J. (2005): The situation of land management and reparcelling in the Czech Republic. Paper for FAO Prague land consolidation workshop.
- UNECE (2005): Land Administration in the UNECE Region – Development trends and main principles.
- UN ECE (2013): Country Profiles on Housing and Land Management – Ukraine.
- Van der Jagt, P. et al. (edt.) (2007): *Far Land Near Future. FARLAND.*
- Van Dijk, T. (2003). Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments. *Eburon.*
- Van Dijk, T. and Kopeva, D. (2004): Land banking and Central Europe: future relevance, current initiatives, Western European past experience. *Land Use Policy* 23 (2006), 286-301.
- Van Dijk, T. (2006). Complications for traditional land consolidation in Central Europe. *Geoforum* 38 (2007), 505 – 511.
- Van Holst, F. (Edt.). (2009): *Lithuanian Land Fund.* Study prepared by VHL and DLG (Netherlands).
- Van Holst, F., Eberlin, R. and Onega Lopez, F. (2014): *LANDNET and Land Market Issues in Europe.* *ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement* 3/2014.
- Varga, V. and Bazik, J. (2013): Land consolidation as a useful tool for rural development. *MendelNet* 2013.
- Vranken, L. et al. (2011): Property rights imperfections and asset allocation: Co-ownership in Bulgaria. *Journal of Comparative Economics* 39 (2011), p. 159-175.
- World Bank (2008): *Agriculture Services project – Implementation Completion and Results Report (Albania).*
- World Bank (2014a): *Moldova Land Governance Assessment Framework (LGAF) – Final Report.*

World Bank (2014b): Application of the Land Governance Assessment
Framework in Ukraine – Synthesis Report.

ANNEX 7.1 LAND CONSOLIDATION OVERVIEW SHEET: LITHUANIA

1) Country category:	A : Ongoing land consolidation programme.
2) Contact persons and info:	<ul style="list-style-type: none"> • Vilma Daugaliene, Deputy Director of Rural Development Department, Ministry of Agriculture. Email: vilmadau@zum.lt • Jurgita Augutiene, National Land Service under the Ministry of Agriculture. Email: Jurgita.Augutiene@nzt.lt • Audrius Petkevicius, Director of Land and Resources Policy Department, Ministry of Agriculture. Email: Audrius.Petkevicius@zum.lt • Giedrius Pasakarnis, Liverpool John Moores University, School of Built Environment. Email: giedrius@konsolidacija.lt
3) Conducted interviews with key persons (persons and dates):	<ul style="list-style-type: none"> • Audrius Petkevicius, Director of Land and Resources Policy Department, Ministry of Agriculture. Interviewed in Riga on 15 April 2014 during Baltic Land Consolidation workshop. Interview recorded. • Jurgita Augutiene, Chief Specialist at National Land Service. Interviewed on Skype 14 May 2014. Interview recorded.
4) EU membership:	Member country since 2004.
5) Current situation with land reform, farm structure and land fragmentation:	<p>After the Second World War, Lithuania was incorporated in the Soviet Union. During the Soviet era, all agricultural land was owned by the State. The agricultural production was organized in large-scale collective and state farms. Agricultural land had been formally nationalized without compensation from its private owners during the collectivization process (Meyers and Kazlauskiene 1998, 87).</p> <p>Lithuania chose to restitute the land rights to the former owners who had lost the land rights during the collectivization. Restitution could take place in kind (i.e. to get back the old family land); in equivalent (i.e. to get other land); or through compensation (i.e. in money). The National Land Service under the Lithuanian Ministry of Agriculture has had the overall responsibility for the land reform process. For each</p>

	<p>cadastre area, a Land Reform Land Management Plan was prepared based on the claims for restitution received from former landowners or their heirs. The plan was prepared in close dialogue with those eligible for restitution who had chosen restitution in kind and in equivalent. The preparation of the restitution plan was often complicated by the possibility for restitution in equivalent land. This option allowed the eligible persons to move their land rights from one part of the country to another (e.g. from where the family land was situated in 1940 to where the heirs lived at the time of restitution) (Hartvigsen 2013a).</p> <p>Land restitution has in Lithuania resulted in a complete breakup of the large-scale collective and state farms. According to the most recent data (2011), the average agricultural holding size is 5.3 ha and the average size of agricultural parcels is 2.9 ha. Thus, the average number of parcels per holding is around 1.8. In 2005, 53 percent of the total utilized agricultural area (UAA) was used through lease agreements (Swinnen and Vranken 2009, 16). Farm structures are dominated by a mix of large corporate farms and medium-large family farms. Fragmentation of both landownership and land use exists in a medium level compared to other Central and Eastern European countries (Hartvigsen 2013b).</p>
<p>6) Introduction of land consolidation (year and description):</p>	<p>Land consolidation was introduced in Lithuania through two pilots 2000-02 and 2002-04 with Danish technical assistance (Danish Ministry of Food, Agriculture and Fisheries 2002 & 2004). Land consolidation legislation was adopted in January 2004 by the parliament as part of an extensive amendment of the Land Law. A national land consolidation programme was introduced in 2005 and the technical part of the first 14 projects began in 2006 (Hartvigsen 2006, 9).</p>
<p>7) Land Consolidation lead agency and organization of the work:</p>	<p>Ministry of Agriculture is overall responsible for the legal framework and funding under the Rural Development Programme. Organization of land consolidation works changed substantially in 2010 when the county administration was abolished and the State Land Fund established through the re-organization of the former State Land Survey Institute. The land fund is organized as a state</p>

	<p>enterprise. The land consolidation projects are managed by the State Land Fund. The National Land Service under the Ministry of Agriculture is approving the area to be included in the project and also gives the formal approval of the negotiated re-allotment plan. Projects are prepared by the local branch office of the State Land Fund. Field work (land valuation, re-allotment planning and surveying works) is tendered out by the State Land Fund to private surveying companies. Experts from the local branch of the State Land Fund often participate in the field work together with the experts of the private company (Petkevicius interview April 2014).</p>
8) Background for introduction of land consolidation:	<p>Land consolidation was introduced mainly as an instrument to address fragmentation and facilitate the increase in farm sizes but also expected to develop into an integrated instrument for local rural development (Hartvigsen 2004).</p>
9) Main objectives of land consolidation:	<p>According to article 2 in the <i>Law on Land</i>, the objective of land consolidation is to i) increase the size of land parcels, ii) form rational agricultural land holdings and improve their structure and iii) create the required rural infrastructure. Thus, the main goal of land consolidation is improving the structure of agricultural holdings as well as being a tool for local rural development (National Land Service under the Ministry of Agriculture 2008, 13).</p>
10) Legal framework for land consolidation:	<p>The legal framework for land consolidation was adopted as chapter IX in the <i>Law on Land</i> on 27 January 2004. The latest amendment of the law is adopted 1 July 2010 (both 2004 and 2010 legal provisions for land consolidation is available in an unofficial translation into English). In addition, the land consolidation process is regulated by the Government Resolution no. 1824 of 15 December 2010 (Augutiene interview May 2014).</p> <p>A National Land Consolidation Strategy was developed as part of a FAO project during 2006-07 and adopted by the Government in January 2008. The strategy has since guided the development of the land consolidation instrument. A revision is foreseen in 2015.</p>
11) Land consolidation	<p>Land consolidation in Lithuania is completely voluntary.</p>

<p>approach (e.g. voluntary – compulsory):</p>	<p>When at least 5 landowners representing at least 100 ha in the proposed project area are interested, they can apply to the State Land Fund for a land consolidation project (Land law 2010, chapter IV). The State Land Fund is obliged to organize a meeting for the landowners in the proposed project area to further investigate the need and interest for land consolidation. During the meeting the preliminary project area is decided (Daugaliene and Leimontaite 2008). Within one month after the meeting, the landowners are requested to sign preliminary agreements where they agree to participate in the project without knowing the outcome of it (the re-allotment plan) and commit to cover part of the costs if they later withdraw from the project (in such case costs are not covered by the RDP). A private surveying company with experts with license for land consolidation works is selected after a tender process. Land valuation is carried out by licensed valuar and the re-allotment plan is then built up by experts from the private surveying company sometimes together with the local branch of the State Land Fund and in close cooperation with the landowners who have indicated their interest in participating. The boundaries of the project area are approved by the National Land Service under MoA. The budget of the project is approved based on the preliminary contracts of the landowners and it is impossible during the process to include new landowners (Pasakarnis et al. 2013, 125-128). The negotiated re-allotment plan is presented at a public meeting with the participants invited and formally approved by the National Land Service (Petkevicius interview April 2014).</p>
<p>12) Length of projects:</p>	<p>2-3 years in the first 14 projects under the national land consolidation programme implemented during 2005-08 (Daugaliene and Leimontaite 2008). The ongoing projects started in 2011 and 2013 are in average expected to have the same duration time. It has been an experience that the project duration often has been too short (Augutiene 2014b).</p>
<p>13) License for land consolidation works:</p>	<p>License system for land consolidation works. In 2014, 114 experts had received license for land consolidation works (Augutiene interview May 2014).</p>

<p>14) Funding sources:</p>	<p>The first 14 land consolidation projects (2005-08) were funded under the Single Programming Document 2004-06 with 75% EU funding and 25% national funding.</p> <p>The projects started in 2011 (23 projects) and 2013 (16 projects) are funded under the RDP 2007-13 (Leimontaite 2013a). The first of these projects are in the process of finalization and all projects must be completed by mid-year 2015 (Petkevicius interview April 2014).</p> <p>It is planned to continue funding under the RDP 2014-20. All costs are covered for the beneficiaries.</p>
<p>15) Impact on nature and environment:</p>	<p>An environmental impact assessment (EIA) is conducted as part of the land consolidation procedure (Pasakarnis et al. 2013, 128). A manual on EIA in relation to land consolidation was prepared as part of a Dutch-Lithuanian project during November 2005 – May 2006 with technical assistance from DLG (DLG and Ministry of Agriculture Lithuania / National Land Service 2006). EIA is today carried out as a simple screening for environmental impact (Petkevicius interview April 2014).</p>
<p>16) Integration of land consolidation with local rural development measures and initiatives:</p>	<p>In the first wave of projects implemented 2005-08, it was the intention to integrate the land consolidation project with activities for local rural development (e.g. new access roads, renovation of drainage systems etc.). However, the available budget covered only the costs of the re-allotment planning, land valuation, cadastral surveying and registration of the agreed land transactions and not the local rural development projects (Pasakarnis et al. 2013). This is in principle still the situation with the ongoing projects. Local communities and municipalities have, however, during recent years been better to coordinate the land consolidation projects with their local development planning and also attract funding (e.g. from Leader axis of the RDP) (Petkevicius interview April 2014).</p>
<p>17) Land consolidation used as a tool for non-agricultural projects (e.g. infrastructure and nature- and</p>	<p>The land consolidation instrument has so far not been used as an instrument for the implementation of larger regional and national infrastructure projects and also not as a tool for nature restoration, afforestation and similar. According to the rules for the land consolidation measure under the RDP 2007-13, land consolidation projects cannot be carried out</p>

<p>environmental restoration):</p>	<p>in Natura 2000 areas. This is limiting the use of the land consolidation instrument for nature and environmental restoration (Pasakarnis email May 2014).</p>
<p>18) Available state agricultural land:</p>	<p>It is expected that around 400 000 ha of state land will remain unprivatized after the complete finalization of the land reform process (Ministry of Agriculture 2007). Most of this State land reserve will be agricultural land in rural areas, often divided into small and badly shaped and fragmented parcels.</p>
<p>19) Involvement of land banking in land consolidation:</p>	<p>The “free state land” is managed by the National Land Service (NLS) under the Ministry of Agriculture. During the first wave of land consolidation projects 2005-08, it was the intention to involve the state land in the projects areas. This was, however, not possible according to the legislation at the time (Pasakarnis et al. 2012, 705).</p> <p>The State Land Fund (SLF) was established in 2010. Today the procedures are that the “free state land” in the land consolidation project area is during the project transferred from NLS to SLF with the purpose to include the state land in the land consolidation project. According to the legislation, the state land cannot be sold (privatized) as part of the land consolidation project but it can be exchanged with private land. Thus, the state land is used to increase land mobility in the land consolidation project and also consolidated (Petkevicius interview April 2014).</p>
<p>20) Volume and budget of national land consolidation programmes (including development):</p>	<p>The first 14 projects under the national land consolidation programme (2005-08) had an average project area of 300 ha and in average 45 participating landowners (Daugaliene and Leimontaite 2008). The total project area in these projects was 4,838 ha and in total 383 landowners participated. The total number of land parcels in the project areas was reduced from 731 to 512 as an outcome of the projects. It was expected to implement more projects in the first round and the total budget (under the Single Programming Document)for the first wave of projects was 2.2 million EUR but due to delays in start of the projects and lack of awareness of the opportunities among the beneficiaries only 0.76 million EUR was actually used.</p>

	<p>The available budget for land consolidation under the RDP 2007-13 was 16.16 million EUR. Of this, 5 million EUR was allocated for 23 projects started in 2011 and 5.5 million EUR for 16 projects started in 2013, in total 10,5 million EUR (Leimontaite 2013a). The total approved project area in the 39 ongoing projects is 48,047 ha and the number of expected participating landowners is 5,789 (Augutiene 2014b).</p>
<p>21) International technical assistance to land consolidation (description of projects and outcome):</p>	<p>Lithuania has received extensive international technical assistance to the building up of the national land consolidation programme:</p> <ul style="list-style-type: none"> • The first land consolidation pilot project – <i>The Dotnuva project</i> – was carried out 2000-2002 with technical assistance from the Land Consolidation Unit of the Danish Ministry of Food, Agriculture and Fisheries and funded by Danish development funds. The objective was to focus on the implementation on improving the local agricultural structures (reduction of fragmentation and enlargement of farms). The pilot area was 392 ha with 79 private landowners. Of these, 19 landowners participated in the project and 86 ha changed owner in the voluntary process (Hartvigsen 2004 & 2006). • In a second Danish – Lithuanian project implemented 2002-2004, the scope was wider – <i>Land consolidation: a tool for sustainable rural development</i>. Three pilots were implemented in three different counties seeking to integrate land consolidation with local needs for rural development. The project provided input to the development of the legal framework for land consolidation (adopted in January 2004). The cost of the project was also covered by Danish development funds. • The project <i>Institutional, organizational and legal framework for the lease and sale of state owned agricultural land in the Republic of Lithuania</i> was implemented during 2004 by BVVG in Germany. The

	<p>project provided technical assistance to the management of state agricultural land including the linkage to land consolidation (BVVG 2004).</p> <ul style="list-style-type: none">• In 2006, the Dutch funded project <i>Methodological guidance to impact assessment in land consolidation process</i> was carried out by DLG in the Netherlands. The project facilitated the preparation of a manual on EIA in relation to land consolidation and developed procedures for conducting cost-benefit analysis in land consolidation projects (DLG 2006 & Daugaliene and Leimontaite 2008).• FAO carried out during 2005-2007 the project <i>Support to the preparation of an operational land consolidation system in Lithuania</i>. The project had two main components: i) preparation of a proposal for a National Land Consolidation Strategy and ii) capacity building in land consolidation (FAO 2006). The national land consolidation strategy in its final version was adopted by the Government in January 2008. The land consolidation specialists involved in the first 14 projects were trained during the project.• Lithuania participated together with six other European countries in the <i>FARLAND project</i> during 2005-2007. The project was funded by the European Commission under the Interreg III C programme.• In 2009, the project <i>Lithuanian Land Fund Study</i> was carried out by VHL and DLG in the Netherlands. The current situation related to state land management in Lithuania was analysed and proposals made for a State Land Fund (Van Holst 2009). The State Land Fund was established in August 2010.• Lithuania participated together with six other European countries in the <i>FACTS</i>
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	<p><i>project during 2010-12. The project was funded by the European Commission under the Interreg IV C programme.</i></p>
<p>22) Current plans for changes in approach, objective, funding etc.):</p>	<p>There are currently no plans for substantial changes (Petkevicius interview April 2014).</p>
<p>23) List of references:</p>	<ul style="list-style-type: none"> • Augutiene, J. 2014a. Preparation for Land Consolidation in Lithuania. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014. • Augutiene, J. 2014b. Lithuanian Experiences with a National Land Consolidation Programme 2005-2013. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014. • BVVG. 2004. Twinning Light Project: Institutional, organizational and legal framework for the lease and sale of state owned agricultural land in the Republic of Lithuania – Final Report. • Danish Ministry of Food, Agriculture and Fisheries. 2001. Land Consolidation Pilot Project, Dotnuva Area, Lithuania – Phase 1 Report. • Danish Ministry of Food, Agriculture and Fisheries. 2002. Land Consolidation Pilot Project, Dotnuva Area, Lithuania – Final Report. • Danish Ministry of Food, Agriculture and Fisheries. 2004. Land Consolidation: A Tool for Sustainable Rural Development – Final Report. • Daugaliene, V. 2004. The State of Land Fragmentation and Land Management in Lithuania. Paper for FAO Land Bank workshop in Tonder, Denmark, March 2004. • Daugaliene, V. 2004. Preparation for land consolidation in Lithuania. Paper from FIG

	<p>symposium on modern land consolidation, Volvic, France, September 2004.</p> <ul style="list-style-type: none">• Daugaliene, V. 2007. Legal Framework of Land Management in Lithuania after 1990. Paper and powerpoint presentation for UNECE WPLA workshop in Munich, May 2007.• Daugaliene, V. and Leimontaite, G. 2008. Land consolidation and its nearest future in Lithuania. Paper for FAO Land Consolidation workshop in Prague, June 2008.• DLG and Ministry of Agriculture Lithuania / National Land Service. 2006. The manual on environmental impact assessment in relation to land consolidation.• FAO. 2006. Support to the preparation of an operational land consolidation system in Lithuania. Unpublished project document.• Garcia, A. et al. (Edt.). 2012. FACTS – Forms for adapting to climate change through territorial strategies(the handbook).• Gaudesius, R. 2011. Sustainable Land Consolidation in Lithuania – The Second Wave of Land Reform. Environmental Research, Engineering and Management, 2011, no. 3(57), 39-45.• Government of the Republic of Lithuania. 2005. Resolution no. 697 of 27 June 2005 On the Approval of the Rules for Preparation and Implementation of Land Consolidation projects.• Hartvigsen, M. 2004. Danish – Lithuanian Land Consolidation Pilot Projects in Lithuania. Paper for FAO Land Bank workshop in Tonder, Denmark, March 2004.• Hartvigsen, M. 2006. Land Consolidation in Central and Eastern European Countries. Paper for FIG Congress, Munich October 2006.
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	<ul style="list-style-type: none">• Hartvigsen, M. 2013a. Land Reform in Central and Eastern Europe after 1989 and its Outcome in Form of Farm Structures and Land Fragmentation. FAO Land Tenure Working Paper 24.• Hartvigsen, M. 2013b. Land reform and land fragmentation in Central and Eastern Europe. Land Use Policy 36 (2014), 330-341.• Kavaliauskiene, B. and Tarvydiene, M. E. 2011. Problems and perspectives of land consolidation projects in the Republic of Lithuania. Baltic Surveying '11, 91-98.• Leimontaite, G. 2013a. Land Consolidation in EU Rural Development Policy in Lithuania. Powerpoint presentation for FAO land consolidation workshop, Skopje 2013.• Leimontaite, G. 2013b. Land Abandonment in Lithuania. Powerpoint presentation for FAO land consolidation workshop, Skopje 2013.• Meyers, W.H. and Kazlauskiene, N. 1998. Land reform in Estonia, Latvia and Lithuania – A comparative analysis. In Wegren (edt.): Land Reform in the Former Soviet Union and Eastern Europe.• Ministry of Agriculture. 2007. National Land Consolidation Strategy.• National Land Service under the Ministry of Agriculture. 2008. National Land Service under the Ministry of Agriculture. Information booklet.• Pasakarnis, G. 2007. Land consolidation project in Zidikai and Ukrinai cadastral area of Mazeikiai district, Telsiai county. Powerpoint presentation for FARLAND workshop.• Pasakarnis, G. and Maliene, V. 2009. Land Readjustment for Sustainable Rural Development. Conference paper from EURO Mini Conference, Vilnius, October 2009.• Pasakarnis, G. and Maliene, V. 2009. Towards sustainable rural development in
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	<p>Central and Eastern Europe: Applying land consolidation. <i>Land Use Policy</i> 27 (2010), 545-549.</p> <ul style="list-style-type: none"> • Pasakarnis, G. and Maliene, V. 2011. Land consolidation in Lithuania: Aspiration and actuality. Conference paper from Environmental Engineering, the 8th International conference, May 19-20, 2011, Vilnius, Lithuania. • Pasakarnis, G. et al. 2012. Rural development and challenges establishing sustainable land use in Eastern European countries. <i>Land Use Policy</i> 30 (2013), 703-710. • Pasakarnis, G. et al. 2013. Factors Influencing Land Consolidation Success: Lessons Learned in Lithuania. In Hepperle, E. et al. (Edt.): <i>Land Management, Potential, Problems and Stumbling Blocks</i>. Hochschulverlag. • Swinnen, J. and Vranken, L. 2009. Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate. Centre for European Policy Studies (CEPS). • Van Holst, F. (Edt.). 2009. <i>Lithuanian Land Fund</i>. Study prepared by VHL and DLG (Netherlands). • Van Der Jagt et al. (Edt.). 2007. <i>FARLAND – Near Future</i>.
<p>24) Assessment / remarks:</p>	<p>Lithuania developed from the launch of the first small pilot project to adoption of legal framework and the start of a national land consolidation programme in less than six years (2000-2005). The first round of projects under the national programme (2005-08) faced several problems and led to amendment of the legal framework in 2010. Land consolidation in Lithuania is primarily focused on the improvement of agricultural structures through reduction of fragmentation and enlargement of farms. The multi-functional potential of the instrument has not been realized.</p>

	<p>Rigid budget system (as a consequence of funding under the RDP) and inflexible procedures where it is difficult to include new landowners as the re-allotment planning is progressing have been hampering the outcome of the projects.</p> <p>State land is exchanged with private agricultural land and used to increase land mobility in the projects as well as to consolidate the state land. The option to privatize state land through land consolidation projects is not used.</p>
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ANNEX 7.2. KEY PERSONS AND CONDUCTED INTER-VIEWS

Country:	Key Person / Institution:	Date / Place of interview:	Verification:
Poland	Jerzy Kozlowski, Deputy Director, Ministry of Agriculture and Rural Development	30 January 2014 / Warsaw	Review and comments by email in March 2014
	Dr. Jolanta Gorska, Agricultural Property Agency (APA)	31 January 2014 / Warsaw	Review and comments by email in March 2014
	Director Tomasz Ciodyk, , Agricultural Property Agency (APA)	31 January 2014 / Warsaw	
	Deputy Director Anna Zajac-Plezia, Agricultural Property Agency (APA)	31 January 2014 / Warsaw	
	Dr. Adrianna Kupidura, Warsaw University of Technology	31 January 2014 / Warsaw	Review and comments by email in February 2014
Slovenia	Dr. Anka Lisec, University of Ljubljana	14 January 2014 / Skype	Review and comments by email in February and March 2014
	Tomaz Primožic, Ministry of Agriculture and Environment		Comments by email in February and March 2014
Czech Rep.	Katerina Juskova, Czech Technical University, Prague.	12 August 2014 / Skype	Review and comments by email and Skype chat in August 2014.
	Jiri Fiser, Ministry of Agriculture, The Central Land Office		Answers to questions by email in July 2014
Slovakia	Dr. Zlatica Muchova, Slovak University of Agriculture in Nitra	20 March 2014 / Skype	Review and comments by email in June and September 2014

	Jaroslav Bazik, PhD student, Slovak University of Agriculture in Nitra	20 March 2014 / Skype	Review and comments by email in June and September 2014
	Peter Repan, Progres CAD Engineering, Ltd.		Documents and comments by email in November 2013 and January 2014
Eastern Germany	Dr. – Ing. Joachim Thomas, International consultant and former head of Nordrhein-Westfalen Upper Land Consolidation Authority.	9 September 2014 / Skype	Review and comments by email in June and September 2014
	Dr. Willy Boss, Head of Landgesellschaft Sachen-Anhalt		Review and comments by email in June and September 2014
Lithuania	Vilma Daugaliene, Deputy Director of Rural Development Department, Ministry of Agriculture		Comments by email in May 2014
	Audrius Petkevicius, Director of Land and Resources Policy Department, Ministry of Agriculture	15 April 2014 / Riga	Review and comments by email in May 2014
	Jurgita Augutiene, National Land Service under the Ministry of Agriculture	14 May 2014 / Skype	Review and comments by email in May 2014
	Giedrius Pasakarnis, Liverpool John Moores University, School of Built Environment		Review and comments by email in April and May 2014
Serbia	Director Zoran Knecevic, Directorate for Agricultural Land, Ministry of Agriculture and Environmental Protection	25 June 2014 / Belgrade	Review and comments by email in July 2014
	Stevan Marosan, Stevan Marosan, University of Belgrade, Department for	9 July 2014 / Skype	Review and comments by email in July 2014

7. EXPERIENCES WITH LAND CONSOLIDATION AND LAND BANKING IN CENTRAL AND EASTERN EUROPE AFTER 1989

	Geodesy and Geoinformatics		
Estonia	Evelin Jürgenson, Advisor, Estonian Land Board	16 April 2014 / Riga	Review and comments by email in May 2014
	Prof. Siim Maasikamäe, Estonian University of Life Sciences in Tartu	16 April 2014 / Riga	Review and comments by email in April and May 2014
	Mati Tõnismäe, Ministry of Agriculture	16 April 2014 / Riga	Comments by email in May 2014
Latvia	Kristine Sproge, State Land Service	15 April 2014 / Riga	Review and comments by email in May 2014
	Daiga Parsova, Ministry of Environmental Protection and Regional Development	15 April 2014 / Riga	
	Dr. Velta Parsova, Latvia Agricultural University	15 April 2014 / Riga	Review and comments by email in May 2014
	Niels Otto Haldrup, International consultant, Denmark		Review and comments by email in August 2014
Hungary	Andras Ossko, Senior Advisor, FÖMI - Institute of Geodesy, Cartography and Remote Sensing	22 June 2014 / Belgrade	Review and comments by email in August 2014
	Agnes Dus, Ministry of Rural Development	22 June 2014 / Belgrade	Review and comments by email in August 2014
Romania	Ileana Spiroiu, Head of Centre, ANCPI (cadaster agency)	23 June 2014 / Belgrade	Review and comments by email in October 2014.
	Louisa Jansen, Project Manager, Dutch Kadaster	9 October 2014 / Skype	Comments by email in June and September – October 2014

	Daniel Roberge, Senior Land Administration expert, World Bank, Bucharest		Comments by email in September 2014
Bulgaria	Kiril Stoyanov, Head of Land Consolidation Unit, Ministry of Agriculture and Food	22 June 2014 / Belgrade	Review and comments by email in August and September 2014
	Vladimir Evtimov, Land Tenure Officer, FAO		Review and comments by email in August 2014
	Radoslav Manolov, Director, Advance Terrafund REID	22 June 2014 / Belgrade	
Croatia	Blazenka Micevic, Director, Agricultural Land Agency	23 June 2014 / Belgrade	Review and comments by email in September 2014
The FYR of Macedonia	Perica Ivanoski, State Counselor, MAFWE	Several talks during FAO project formulation mission in November 2013	
	Draganco Stojcov, Legal advisor to the Minister, MAFWE	Several talks during FAO project formulation mission in November 2013	
	Mitko Basov, Head of land Consolidation Department, MAFWE	Several talks during FAO project formulation mission in November 2013	
	Kiril Georgievski, Advisor, MAFWE	Several talks during FAO project formulation mission in November 2013	Review and comments by email in September 2014

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Kosovo	Idriz Gashi, Head of Agriculture Land Division, Ministry of Agriculture, Forestry and Rural Development	25 June 2014 / Belgrade	Review and comments by email in July and August 2014
	Niels Otto Haldrup, International consultant, Denmark		Review and comments by email in August 2014
	Ruitger Kuiper, International consultant, The Netherlands		Review and comments by email in August 2014
Bosnia-Herzegovina	Svetlana Lazic, Head of Division, Republika Srpska Ministry of Agriculture, Forestry and Water Man	Several talks during 8 FAO project missions 2012-14	
	Pejo Janjic, Head of Department, Federal Ministry of Agriculture, Water management and Forestry	Several talks during 8 FAO project missions 2012-14	
	Esad Mahir, National Consultant on FAO land consolidation project	Several talks during 8 FAO project missions 2012-14	Review and comments by email in August 2014
Albania	Irfan Tarelli, General Director, Land and Water Administration Department under Ministry of Agriculture, Rural Development and Water Administration	27 May 2014 / Telephone	Review and comments by email in May 2014
	Fatbardh Sallaku, Professor in land management at Agricultural University of Tirana		Review and comments by email in May 2014
Moldova	Angela Dogotari, Head of Department, Ministry of Agriculture and Food Industry	14 May 2014 / Skype	
	Maxim Gorgan, National Agency for	14 May 2014 / Skype	Review and comments by

	Rural Development (ACSA)		email in May 2014
	David Palmer, Senior Land Tenure Officer, FAO		Review and comments by email in May 2014
Armenia	Narek Grigoryan, Head of International Relations, State Committee of the Real Estate Cadastre (SCC)	Email interview during May 2014	
	Vahagn Grigoryan, former team leader of national consultants for FAO project		Comments by email in May 2014 Review and comments by email in September 2014
Ukraine	Willemien van Asselt, International consultant, DLG	23 September 2014 / Skype	
	Dr. Olga Zhovtonog, Head of Department, Institute of water problems and Land Reclamation, Academy of Agrarian Sciences		Review and comments by email in September and October 2014
Montenegro	Irina Vukcevic, Head of Department for Programming, Directorate for Rural Development, Ministry of Agriculture and Rural Development.	Email interview during August – September 2014	Comments by email in September 2014
	Natasa Seferovic, MANS (NGO)		Comments by email August and September 2014
Georgia	Joseph Salukvadze, Professor, Tbilisi State University	23 June 2014 / Belgrade	Review and comments by email in July 2014
	David Egiashvili, World Bank and International Consultant	27 June 2014 / Skype	Review and comments by email in July 2014
	Zurab Gamkrelidze, Chief Specialist, Ministry of Agriculture	23 June 2014 / Belgrade	

7. EXPERIENCES WITH LAND CONSOLIDATION AND LAND BANKING IN CENTRAL AND EASTERN EUROPE AFTER 1989

Azerbaijan	Emil Safarov, Chief Engineer, Production Centre of Land Cadastre and Monitoring	23 June 2014 / Belgrade	Review and comments by email in July 2014
Russian Federation	Professor Alexander Sagaydak, State University of Land Use Planning, Moscow	20 August 2014 / Skype	Review and comments by email in August 2014
	Lennart Hansen, International consultant, Denmark	2 September 2014	
Belarus	Dr. Alexander Pomelov, Director of the Belarusian Research Enterprise for Land Utilization, Geodesy, and Cartography (BelNITszem)	Email interview during August – September 2014	Comments by email in September 2014

CHAPTER 8

8 LAND MOBILITY IN A CENTRAL AND EASTERN EUROPEAN LAND CONSOLIDATION CONTEXT

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Abstract

In most of the Central and Eastern European countries, land reforms after 1989 have resulted in extensive land fragmentation. The majority of the countries have during the two recent decades introduced land consolidation instruments to address the structural problems with land fragmentation and small farm sizes through donor funded projects with international technical assistance. The approach has normally been voluntary and low land mobility in the project areas has often been a constraint. It is the aim of this paper to explore the problems and possible solutions related to low land mobility in a Central and Eastern European land consolidation context. The term *land mobility* is defined and the limited theory available is reviewed. Case studies of land mobility in land consolidation pilot projects in Moldova, Albania and Bosnia-Herzegovina show the correlation between land mobility and the success or failure of voluntary land consolidation projects. In situations with low land mobility, land consolidation instruments need in order to be successful to be supported by other land policy tools such as land banks. The use of existing state agricultural land is an obvious foundation for establishing a state land bank.

Keywords

Land mobility, Land consolidation, Land banking, land fragmentation, Central and Eastern Europe.

8.1 INTRODUCTION

Most of the countries in Central and Eastern Europe (CEE) have after 1989 implemented land reforms in which state agricultural land has been privatized, often through restitution of land rights to former owners or distribution of state land to the rural population (e.g. Swinnen et al., 1997; Lerman et. al., 2004 and Hartvigsen, 2013a). A recent study of the 25 CEE countries (figure 8.1) showed that land reforms in most of the CEE countries have resulted extensive land fragmentation. Currently, in 15 of the 25 countries, high levels of fragmentation of both land ownership and of land use have occurred.⁷⁸⁰

Land consolidation has for decades in most countries in Western Europe been a well-known instrument to combat land fragmentation and other structural problems in the agricultural sector such as the need to increase farm sizes and adapt to changing production technology. During the last three decades, the objectives of doing land consolidation in most of these countries have shifted from mainly improving agricultural structures towards a multi-functional purpose where land consolidation increasingly is used as a tool to implement public initiated projects related to nature and environmental protection and infrastructure. At the same time, land consolidation is a tool to compensate the landowners and farmers in land for the land lost to the public project instead of in cash and thus, land consolidation allows them to sustain their production and sometimes even increase it. The Western European countries have different land consolidation traditions, approaches and procedures.⁷⁸¹ Distinction is often made between “simple” and “comprehensive” or “complex” land consolidation and between “voluntary” and “compulsory” land consolidation.⁷⁸²

The majority of the CEE countries have since the beginning of transition in 1990 introduced land consolidation instruments mainly to address the structural problems in the agricultural sector with land fragmentation and small average

⁷⁸⁰ Hartvigsen, M (2013b): *Land Reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2006), 330-341.

⁷⁸¹ Vitikainen, A. (2004): *An Overview of Land Consolidation in Europe*. Nordic Journal of Surveying and Real Estate Research. Vol. 1, 2004, p. 25-44.

⁷⁸² Thomas, J. (2006): *Property rights, land fragmentation and the emerging structure of agriculture in Central and Eastern European countries*. Electronic Journal of Agriculture and Development Economics. Vol. 3, No. 2, 2006, p. 245-248.

farm sizes.^{783 784 785} So far, however, only few of the CEE countries have on-going national land consolidation programmes including clear policy annual budgets and legislation. In most of the other countries in the region, land consolidation has been introduced with international technical assistance through donor funded development projects.



Figure 8.1: The 25 study countries in Central and Eastern Europe.

Land consolidation in CEE has often been introduced with the implementation of pilot projects with voluntary participation of the local stakeholders. There are a number of reasons why the approach in land consolidation pilots has often been

⁷⁸³ Van Dijk, T. (2003a): *Scenarios of Central European land fragmentation*. Land Use Policy 20 (2003).

⁷⁸⁴ Van Dijk, T. (2003b): *Dealing with Central European land fragmentation: A critical assessment of the use of Western European Instruments*. Eburon Delft.

⁷⁸⁵ Hartvigsen, M. (2006): *Land Consolidation in Central and Eastern European Countries*. XXIII FIG Congress Munich, October 2006.

voluntary in the CEE countries. First, the protection of private ownership rights to agricultural land, especially in societies where private landownership had been suppressed during the decades of collectivization. Second, because of the recent history there is often a low trust among the population in public authorities, including those introducing land consolidation through pilots. Without a voluntary approach, pilot communities would in many situations have refused to participate and cooperate on the pilot projects. Third, the nature of pilots are that they are implemented to get experiences and test approaches and procedures which in turn are used to identify changes to the legal framework that are needed to allow future land consolidation programmes to operate efficiently and effectively. Hence, the process is just as important as the results measured in landowner participation rate, number of land transactions etc.

Experiences from the many donor funded land consolidation projects throughout the CEE countries during the last 15 years show that local landowners and farmers are often interested in participating in the voluntary projects. However, it has often been difficult to build up re-allotment plans that allow all the interested stakeholders to benefit from the new parcel structure in the project area. A major reason for this is often low *land mobility* in the land consolidation projects. So far, very little research and theoretical work has been done on land mobility in land consolidation, especially in a CEE context.

It is the aim of this paper to explore the problems and possible solutions related to low land mobility in a CEE land consolidation context. First, the limited theory available will be reviewed.⁷⁸⁶ Second, case studies of land mobility in recently implemented land consolidation pilot projects in three CEE countries; Moldova, Albania and Bosnia-Herzegovina will focus on the problems caused by limited land mobility applying the theory of Sørensen. Third, tools to increase land mobility (e.g. land banking and motivation of local landowners and farmers) are discussed and conclusions made.

8.2 RESEARCH METHODOLOGY

So far there have been no theoretical attempts to assess land mobility in a CEE land consolidation context and only few analysis of land mobility in a Western European context despite of numerous papers on land consolidation over the years. The theory on land mobility developed by Sørensen based on a study of the

⁷⁸⁶ Sørensen, E.M. (1987): *Lokal Landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab*. Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21.

Danish land consolidation practice 1979–84 is in section 8.3 reviewed in a CEE land consolidation context.⁷⁸⁷

No studies of land mobility in a CEE context have been conducted before. Hence, no statistical evidence or other data exists on the level of land mobility in the region. The analysis of the problems related to low land mobility in land consolidation projects and the discussion of possible solutions will in section 8.4 be based on case studies of land mobility in recently implemented land consolidation pilot projects in Moldova, Albania and Bosnia-Herzegovina. These countries are selected because the author has thorough knowledge and practical experience from providing technical assistance on FAO and World Bank funded land consolidation pilot projects in these countries. As mentioned, these projects were pilots. All things being equal, it can be expected that the land mobility will be lower in pilots compared to projects under national land consolidation programmes. The main reasons for this are that pilots are implemented without land consolidation legislation and there will often be very limited knowledge and capacity on land consolidation at the pilot stage. This is further discussed in section 8.4.

Yin argues that case study research constitutes an appropriate research strategy when a contemporary phenomenon is studied in depth and within its real-life context when the boundaries between phenomenon and context are not clearly evident.⁷⁸⁸ The study of land mobility in land consolidation projects coincide well with this definition. Case studies can, according to Yin, cover multiple cases and then draw a single set of “cross-case” conclusions.⁷⁸⁹ The three cases are explored through desk studies of available project reports, including land ownership maps and land mobility maps, but first and foremost by drawing on the practical experiences of the author from the projects. Flyvbjerg, in the context of conducting case studies, argues that “*virtuosity and true expertise are reached only via a person’s own experiences as practitioner of the relevant skills*”.⁷⁹⁰

8.3 THEORY ON LAND MOBILITY IN A LAND CONSOLIDATION CONTEXT

As it was explained in the introduction, various approaches to land consolidation exist within Europe and the term *land consolidation* is often used to describe different traditions and procedures. As a consequence, a commonly accepted

⁷⁸⁷ Ibid.

⁷⁸⁸ Yin, R. K. (2009): *Case Study Research – Design and Methods*. Fourth Edition. Sage Publications Inc., p. 3-23.

⁷⁸⁹ Ibid., p. 20.

⁷⁹⁰ Flyvbjerg, B. (2011): *Case Study*. In Denzin, N. and Lincoln, Y. (eds): *The Sage Handbook of Qualitative Research*, 4th Edition (Thousand Oaks, CA: Sage, 2011), Chapter 17, p. 303.

definition of land consolidation does not exist. FAO has, however, explained land consolidation in the following way.

Land consolidation is a term used broadly to describe measures to adjust the structure of property rights through co-ordination between owners and users. Land consolidation involves the reallocation of parcels to remove the effects of fragmentation but the term goes well beyond these actions. Land consolidation has been associated with broad economic and social reforms from the time of its earliest applications.⁷⁹¹

The term *land mobility* in land consolidation projects has so far not been clearly defined. Since land mobility is an essential element in land consolidation, a definition of land mobility has to be consistent with a common accepted understanding of land consolidation. In this paper, *land mobility in land consolidation projects is defined as the coordinated extent of re-structuring of land rights through sale, purchase, exchange or lease from one owner to another as it proves possible during the re-allotment process.*

Hence, land mobility is a term which can be used at the initial stage of the land consolidation project to describe the potential transfer of land rights in a land consolidation project. It can, however, also describe the realized transfer of land rights after the project has been finalized. That the transfer of land rights is “coordinated” means that a planning process is carried out which results in the re-allotment plan negotiated between the involved stakeholders in the project area.

The Danish land consolidation tradition is rooted in the land reforms, the enclosure movement, that began in 1780s and which resulted in a farm structure dominated by individually owned family farms. The first “modern” land consolidation law in Denmark was adopted in 1924. As in most other Western European countries, the objective of land consolidation has gradually shifted from the 1980s and onwards from being a tool to address structural problems in agriculture (reducing fragmentation and enlarging agricultural holding sizes) to mainly being a tool for implementation of public initiated projects which determine a change in land use of private owned agricultural land such as nature and environmental projects as well as infrastructure projects. Participation in Danish land consolidation projects is voluntary. However, private land can be acquired by the state or municipalities through expropriation for public projects defined as “public needs” but always according to a specific legal provision and against full compensation to the landowner.

⁷⁹¹ FAO (2004): *Operations manual for land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Manuals no. 1. Rome, p. 1.

Sørensen conducted a study of the Danish land consolidation practice during 1979–84 based on which he formulated a theory on land mobility in land consolidation projects.⁷⁹² According to the theory, *land mobility* is the pivotal element in the land consolidation planning process, i.e. in building up the re-allotment plan after negotiations and voluntary agreements with landowners and farmers in the project areas. The creation of land mobility in project areas where land consolidation is implemented is an important precondition for successful implementation of the projects.

This study showed that three key factors are determining the land mobility in a land consolidation project area; i) the local agricultural structure, ii) the available land pool and iii) availability of knowledge and capacity. This is illustrated in figure 8.2.

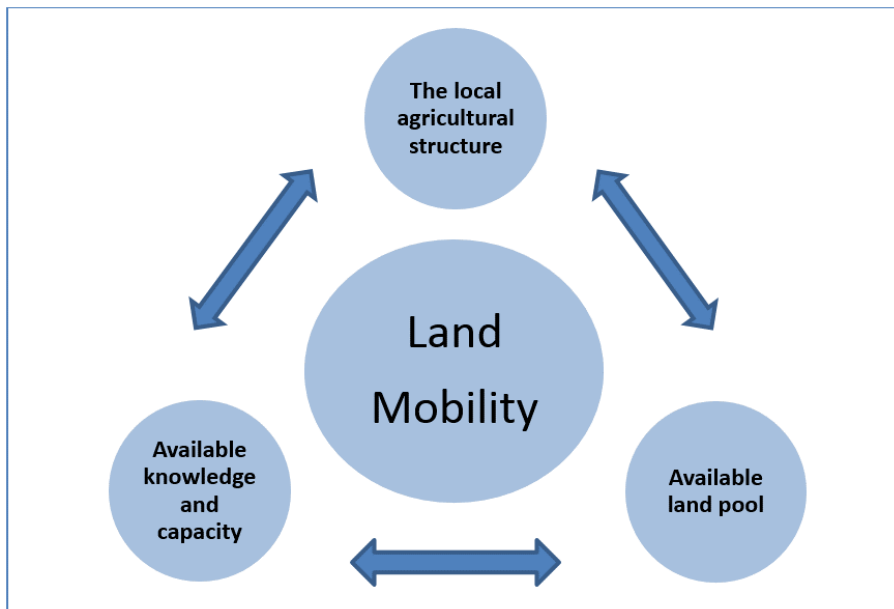


Figure 8.2: Three key factors determining land mobility in land consolidation projects.⁷⁹³
Source: After Sørensen, 1987.⁷⁹⁴

⁷⁹² Sørensen, E.M. (1987): *Lokal Landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab*. Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21, p. 192-198.

⁷⁹³ Sørensen, E.M. (1987): *Lokal Landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab*. Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21, p. 193.

⁷⁹⁴ Ibid.

The *local agricultural structure* at the beginning of the project is important basically because it defines the potential for improvement if a land consolidation project is successfully implemented in the specific project area. There are different aspects of the local agricultural structure. First, the ownership structure, i.e. agricultural holding sizes and level of ownership fragmentation. If the level of land fragmentation in the project area is high, then the potential for improvement will normally often also be high as well as the motivation of local stakeholders to participate. Second, the farm structure, including land leased out and leased in. Third, the local land market situation including the demand from farmers for purchase of additional agricultural land and their wish to develop their farms. The structural development where expanding farmers, through normal land market transactions, purchase additional land, not always contiguous to existing parcels, will also create ownership fragmentation and a need to “tidy up”.

The *available land pool* is agricultural land parcels in the project area which will be available for the voluntary re-allotment planning. The land pool can come from landowners who in the land consolidation process decide to sell all their agricultural land or part of it while gradually reducing their production as they become older. The land pool can also come from land parcels which have been marginalized for the owner’s production (e.g. meadows from pig farmers). Available public owned land can as well contribute to the land pool. Finally, the land pool also consists of land parcels which are becoming available in the land consolidation process as the owners exchange these for other land.

Local knowledge and capacity on land consolidation is the third key factor which determines the land mobility. This factor has two different aspects. First, knowledge of land consolidation among the local stakeholders in the project area is important for their interest in participating. It is often much easier to implement a project in a village neighboring a village with a recent successful project as the good news on the benefits from the project are spread in the local communities. It is much easier to motivate people to participate when they have already understood how they can benefit. When there is limited knowledge of land consolidation among local stakeholders, awareness rising becomes crucial. Second, the planning capacity, i.e. the education, experience, technical and personal skills of the professionals involved in facilitating the negotiations between the local stakeholders that eventually shall result in the final re-allotment plan.

Sørensen found in the study of the Danish land consolidation practice in the 1980s that at least two of the three key factors must be available to ensure a level of land

mobility sufficient for successful implementation of the voluntary land consolidation project in the Danish context.⁷⁹⁵

8.4 THE PROBLEM OF LIMITED LAND MOBILITY IN A CENTRAL AND EASTERN EUROPEAN LAND CONSOLIDATION CONTEXT

More than ¾ of the 25 CEE countries have since 1990 had experience with land consolidation. Today, six of the 25 countries have on-going national land consolidation programmes. These are the Czech Republic, Slovakia, (Eastern) Germany, Poland, Slovenia and Lithuania. Of these, Poland and Slovenia already had land consolidation programmes during the socialist era as collectivization had largely failed in Poland and Yugoslavia and most of the agricultural land was owned and farmed by small and often fragmented family farms.⁷⁹⁶

In most of the CEE countries, land consolidation has been introduced through donor funded development projects with technical assistance from Western European land consolidation experts, especially from the Netherlands, Germany, Sweden and Denmark. The introduction of land consolidation has often been through projects which have included one or more land consolidation pilots, often implementing the re-allotment plan following normal land transaction procedures since land consolidation legislation has normally not been developed and adopted at this initial stage.

FAO, the Food and Agricultural Organization of the United Nations, has played a key role in the process through publishing guidelines,^{797 798 799} implementing field projects and facilitating a network of land management and land consolidation professionals and organized a series of workshops from 2002 and onwards. Furthermore, *the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security*, endorsed by the UN Committee on World Food Security in May 2012, has a section with recommendations on *land consolidation and other readjustment approaches*.⁸⁰⁰ FAO has in the CEE countries so far implemented land consolidation projects in

⁷⁹⁵ Ibid., p. 198.

⁷⁹⁶ Hartvigsen, M. (2013a): *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24.

⁷⁹⁷ FAO (2003): *The design of land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Studies no. 6. Rome.

⁷⁹⁸ FAO (2004): *Operations manual for land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Manuals no. 1. Rome.

⁷⁹⁹ FAO (2008): *Opportunities to mainstream land consolidation in rural development programmes of the European Union*. FAO Land Tenure Policy Series no. 2. Rome.

⁸⁰⁰ FAO (2012): *Voluntary guidelines on the responsible governance of tenure of land, fisheries and forest in the context of national food security*. Rome, p. 23-24.

Armenia, Serbia, Lithuania, Moldova, Albania and Bosnia-Herzegovina. Land consolidation pilots have been included in the projects except in Lithuania and Moldova where pilots had already been carried out when FAO was requested for assistance. All the FAO projects have included the development of land consolidation strategies to enable the countries to identify what changes should be made to the legal and organizational structures in order to move from pilots to a full national land consolidation programme. Hence, among the objectives of the land consolidation pilots have been to provide practical experience in how to do land consolidation and build on these experiences when developing the strategies. The pilots were implemented without the advantage of land consolidation legislation following normal land transaction procedures. As a result, the expectation has been that the pilots would not operate as effectively as projects in the future national land consolidation programmes, including by having less potential for land mobility.

Lithuania is a very good example of how fast the development of a national land consolidation programme can be.⁸⁰¹ The first small land consolidation pilot project was started in 2000 and less than six years later, in 2006, the first 14 projects under a national land consolidation programme were launched and funded under the Lithuanian Rural Development Programme. In the less than six years, two rounds of pilots were implemented, legal framework for land consolidation was developed and adopted by the parliament and the national programme launched.

In this section, case studies of the situation with land mobility in Moldova, Albania and Bosnia-Herzegovina, three countries where land consolidation has recently been introduced through pilots, will provide analysis of the constraints of low land mobility and possible solutions. Sørensen's three key factors determining land mobility will be applied in the analysis.

8.4.1 MOLDOVA CASE

Moldova became after WWII part of Soviet Union. During the Soviet era, all agricultural land was owned by the state and utilized in large-scale collective and state farms. Land reform in Moldova was made feasible in 1991 through the adoption of the land code.⁸⁰² During the early 1990s, the agricultural land in Moldova was distributed to the rural population, first as land shares and between 1997 and 2001 in physical land parcels. In total, around 1.7 million ha was privatized to almost 1.1 million new owners, each with an average landholding of

⁸⁰¹ Hartvigsen, M. (2006): *Land Consolidation in Central and Eastern European Countries*. XXIII FIG Congress Munich, October 2006, p. 9.

⁸⁰² Hartvigsen, M. (2013a): *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 39-41.

1.56 ha, normally distributed in 3-4 parcels (i.e. 1-2 parcels of arable land, one parcel of orchard and one parcel of vineyard). The land reform has resulted in a high level of fragmentation of land ownership. Farm structures after land reform are dualistic with many small family farms and relatively few large corporate farms.⁸⁰³ Land use fragmentation has occurred in a medium-high level compared with the other CEE countries. A unified cadastre and land register was built up together with the land privatization process and the new land ownership registered. In many cases, however, registration problems and errors occurred such as discrepancies between land titles and cadastral plans and the physical land pattern on the ground.⁸⁰⁴ These problems hamper the development of the rural land market and also have a limiting effect on land mobility in voluntary land consolidation projects in addition to the issues of land mobility discussed below.

As a result of increasing political awareness of the problems experienced by small and fragmented farms, in 2004 the Government of Moldova requested the World Bank to assist in addressing the situation.⁸⁰⁵ A feasibility study during 2005-06 outlined the concept of a project with simultaneous implementation of land consolidation pilots in six villages. The Moldova Land Re-parceling Pilot Project was implemented in 18 months during the period July 2007 to February 2009 and funded by the World Bank and SIDA, the Swedish development agency. FAO methodology and training materials was followed (see further section 8.4.2). At the initial stage of the project, in total more than 7,000 landowners and almost 27,000 agricultural parcels were identified in the six pilots. The project concept was completely voluntary and participatory and the new parcel structures (re-allotment plans) were reached after six local project teams supported by national and international consultants had facilitated negotiations between the local landowners and farmers. In total, 2,908 landowners or 40 percent of the landowners participated in the project. Three villages were very successful with the other three being less so. The participation rate varied considerably from 14 percent in Opaci and Baimaclia and to 71 percent in Bolduresti and 82 percent in Busauca. In total, 1,776 hectares changed owners.

When it comes to the first of the three key factors of the land mobility theory, *local agricultural structures*, the six pilot villages were typical for the situation in Moldova. Data on land ownership in the six pilots is displayed in table 8.1. The average parcel size varied between 0.21 ha and 0.73 ha. The average number of parcels per owner before the project varied from 3.19 to 5.08. In all six villages,

⁸⁰³ Hartvigsen, M (2013b): *Land Reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2006), 330-341.

⁸⁰⁴ Cashin, S.M., McGrath, G. (2005): *Establishing a modern cadastral system within a transition country: Consequences for the Republic of Moldova*. Land Use Policy 23 (2006), p. 638.

⁸⁰⁵ Hartvigsen, M., Gorgan, M., Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012.

the land ownership was highly fragmented at the beginning of the project. Thus, there was high potential for reduction of the ownership fragmentation through the land consolidation project.

	Pilot village 1 (Busauca Village)	Pilot village 2 (Sadova Village)	Pilot village 3 (Bolduresti Village)	Pilot village 4 (Calmatu i Village)	Pilot village 5 (Opaci Village)	Pilot Village 6 (Baimaclia Village)
Total no. of registered agricultural land parcels	3.088	5.922	6.006	1.757	5.626	4.204
Identified no. of landowners	708	1.319	1.786	634	1.762	1.048
Average parcel size	0.50ha	0.21ha	0.29ha	0.40ha	0.60ha	0.73ha
Average number of parcels pr. owner	4.72	4.49	3.36	3.69	3.19	5.08

*Table 8.1: Land ownership in Moldova land consolidation pilots. Source: Hartvigsen, 2008.*⁸⁰⁶

In all six pilot villages, the agricultural land was in the land reform process in the 1990s distributed equally between the rural population in three categories; arable land, vineyard and orchard. While the size of the arable land parcels often vary between 0.5 and 1.0 ha, the orchard and vineyard parcels are much smaller, often 0.05 – 0.2 ha. Absence of dominating corporate farms in the pilot villages was one of the criteria for selection of the pilots. Thus, the land use structures in the six pilots were dominated by small and medium sized family farms. Most of the landowners utilized their own arable land parcels. In other cases they were rented out to the local medium-sized family farmers. The orchard and vineyard parcels, however, were often not used by the owners and sometimes not used at all, either because of the unproductive parcel size or because the perennials were old and unproductive. In some cases, the perennials had been cut and turned into arable land or left as wasteland.⁸⁰⁷

When it comes to the second of the three key factors of the land mobility theory, *the available land pool*, this is closely related to the local land market. Presence of demand for additional agricultural land among the local farmers was one of the

⁸⁰⁶ Hartvigsen, M. (2008): *Moldova Land Re-parceling Pilot Project – Mid-term Report*. Niras, Orbicon, ACSA and Terra Institute. World Bank, Rural Investment and Services Project II, p. 14.

⁸⁰⁷ Hartvigsen, M., Gorgan, M., Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012, p. 14.

criteria for selection of the pilots. Despite of this, it was the experience of the pilots in Moldova that the actual demand for additional land varied greatly among the six pilots. In the three most successful villages, there were at the same time high demand for purchase of additional agricultural land and available land pool. Many landowners wanted to sell their parcels of unproductive orchards and vineyards and in some situations also the arable land. Public agricultural land was not available for the land consolidation process in the pilot villages as it had all been privatized during the land reform in the 1990s.

At the initial stage of the land consolidation pilots, all the identified landowners were interviewed about their interest in and wish for the land consolidation, i.e. which parcels they considered to sell, exchange as well as interest in purchase of additional land. Hence, the project approach was at the same time to facilitate exchange and the selling and buying of land parcels. Based on this information, a so-called Land Mobility Map was prepared for each village. In relation to the land mobility theory of Sørensen, at more precise name of the map would have been Land Pool Map as only one of the three key factors in the theory was analyzed and displayed on the map. Part of the land mobility map from Bolduresti pilot village is displayed in figure 8.3. The figure illustrates that many contiguous parcels were available in the land pool which gave good options preparing a good re-allotment plan. In general, the land mobility map provides a snapshot of the available land pool for the voluntary land consolidation project. However, the picture will almost always change as the land consolidation process moves on. Some landowners may have too high expectations to the price level and may decide not to sell when they get a concrete offer. Some are willing to sell and an agreement with the buyer can be reached but problems with land registration prevent the transaction from being implemented and registered.⁸⁰⁸ Others, on the other hand, who were initially not interested may change their mind when they see how neighbors and family members have benefitted from the project. Hence, there will almost always be considerable difference between the potential available land pool in the initial stage of the project and what is realized at the end of the project.

When it comes to the third of the three key factors of the land mobility theory, *local knowledge and capacity*, all six pilots in Moldova were at the beginning of the project in the same situation. Since the land consolidation pilot was the first of its kind in Moldova, very little knowledge of land consolidation existed among the stakeholders in the pilot villages. An awareness campaign was conducted at the initial stage of the project with a series of community workshops, individual information to stakeholders during interviews and dissemination of an

⁸⁰⁸ Cashin, S.M., McGrath, G. (2005): *Establishing a modern cadastral system within a transition country: Consequences for the Republic of Moldova*. Land Use Policy 23 (2006), p. 638.

information brochure in each pilot village. During these initiatives, the project concept was explained to the local community.

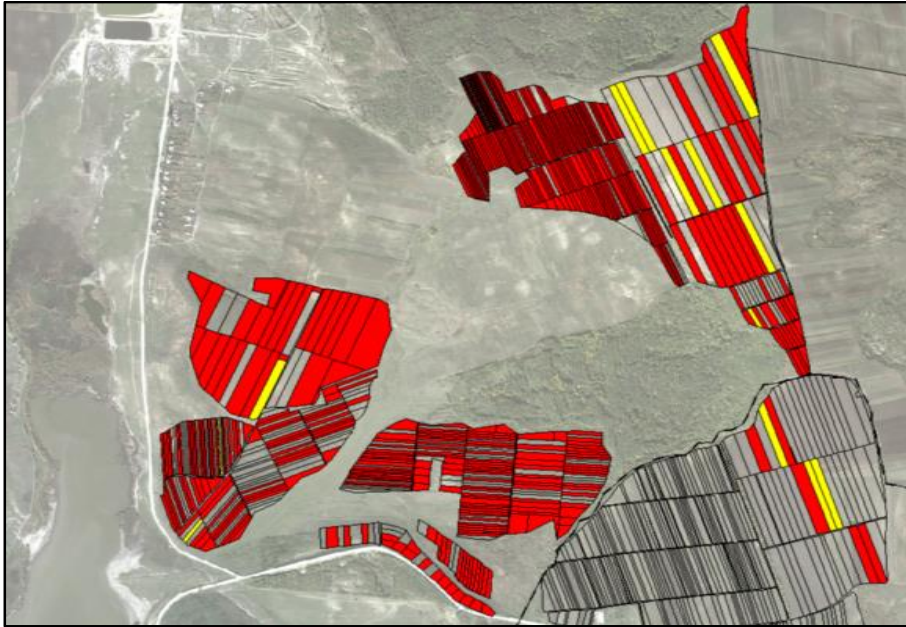


Figure 8.3: Land Mobility Map for part of Bolduresti pilot village, Moldova. The map was prepared based in the initial stage of the project based on the analysis of landowner interviews. The red parcels were offered for sale by the owners under the precondition that an agreement can be reached with the potential buyer. Yellow parcels were offered for exchange under the precondition that the land given in exchange was acceptable.

For the same reasons, very little experience with land consolidation existed among land professionals in Moldova when the project began. The contractor employed a team of three national consultants for the project and 1-2 local experts for each pilot village. A training programme was developed and training on land consolidation in a voluntary and participatory approach was conducted by the international consultants. The training was based on training materials developed by FAO.⁸⁰⁹ The local experts were supervised by the team of national and international consultants. The members of the local teams had different technical backgrounds. Most of them were educated as agronomist and some as land surveyors. The task of facilitating land consolidation agreements between the local stakeholders was new to all of them. However, it was the experience of the project

⁸⁰⁹ FAO (2006): *FAO Land Tenure Training Materials on Land Consolidation Pilot Projects*. Rome.

that some of the local experts had the personal skills, e.g. negotiation skills and empathy that facilitated good results, while this was not the case for others.

We can conclude that one of the main reasons for the successful implementation of the land consolidation pilots in three of the six villages was the relative high land mobility in the villages. The agricultural structures were in all six villages favorable for the project implementation, i.e. high potential for reduction of fragmentation and enlargement of agricultural holding sizes. The three most successful villages had both a relative high demand for additional agricultural land among the local stakeholders and an available land pool, mainly from unproductive orchard and vineyard parcels. In the three less successful villages, local family farmers were not in the same way demanding more land or were not able to fund purchase of additional land. These three villages also had more land registration problems, mainly unregistered inheritance cases. When a new owner is not registered within six months after the death of the registered owner, the registration procedure in Moldova becomes complicated and lengthy. The short project period did often not allow for these cases to be solved in time by the Courts. Finally, in the three weaker villages, some of the local land professionals were not in the same way as in the successful villages having the right personal skills for the new professional task of conducting land consolidation planning.

8.4.2 ALBANIA CASE

During the collectivization after WWII, all agricultural land was nationalized in Albania. When the communist regime fell in 1990, the land reform process was launched in 1991. In only 18 months, 700,000 ha of arable land that used to be controlled by 420 collective and state farms were distributed to nearly 500,000 family farms, separated into nearly 2 million parcels.⁸¹⁰ Thus, land reform in Albania resulted in a complete break-up of the existing farm structure and restructuring of the agricultural sector. In the mid-1990s after completion of the distribution of the state land to the rural population, the average agricultural holding size was 1.05 ha per family in average distributed in 3.3 land parcels, often with long distance between parcels. The average parcel size is around 0.3 ha and the fields are rarely contiguous.

More than 90 percent of the arable land in Albania is being farmed by the owners in small-scale family farms. In 2011, Albania had about 390,000 family farms with an average size of 1.26 ha (including leased land), divided in 4.7 parcels. Hence,

⁸¹⁰ Hartvigsen, M. (2013a): *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 21-24.

the owner structures and the land use structures are almost convergent resulting in excessive fragmentation of both ownership and land use.

The Albanian Ministry of Agriculture, Food and Consumer Protection requested in 2008 FAO to fund and implement a land consolidation pilot project. The project was implemented during 2010–2013 with three main components; i) development of a national land consolidation strategy for Albania, ii) pilot land consolidation in three neighboring villages in one municipality and iii) training and capacity development. The project concept was completely voluntary and built on the active participation of the local stakeholders. Transaction costs were funded by the project.

The pilot villages were located in Terbuf Municipality. A local team of three experts were recruited for the pilot activities. They were in the daily work supported by three national consultants and a small international team of FAO experts and international consultants.

At the initial stage of the project, in total 715 landowners with in total 4,248 land parcels were identified in the three villages.⁸¹¹ Data on land ownership in the three pilot villages is displayed in table 8.2 and in figure 8.4. All available landowners (74 percent) were interviewed about their agricultural production as well as interest in and wish for the land consolidation project. Most of the remaining landowners were not present in the village and a few refused to be interviewed. As many as 84 percent of the interviewed landowners expressed during the interviews an interest in participating in the land consolidation project.⁸¹² In the second phase of the project, the re-allotment plan was build up after negotiations between the local stakeholders facilitated by the local team. In total around 150 landowners (families) or 28 percent of the interviewed landowners found solutions in the project with in total around 200 land parcels in the re-allotment plan. In the third phase of the project, the land transactions agreed between the local landowners were registered following the normal Albanian land registration procedures. At the end of the project land transactions involving only 17 landowners and 35 land parcels were fully registered and implemented. The reason for this was complicated and time consuming normal land transaction procedures in Albania. The pilot project identified the changes needed to the legal framework, including an Albanian land consolidation law, to ensure simplified and cost-effective registration procedures in future land consolidation projects.

⁸¹¹ Sallaku, F. (2011): *Land consolidation baseline survey in Terbuf Pilot Municipality*. Unpublished project report FAO land consolidation project TCP/ALB/3301.

⁸¹² Hartvigsen, M. (2012): *Note on the outcome and lessons learned from land consolidation pilots in three villages in terbuf Commune, Albania*. Unpublished project document FAO land consolidation project TCP/ALB/3301.

	Pilot village 1 (Cerme e Siperme)	Pilot village 2 (Cerme e Vogel)	Pilot village 3 (Cerme Proshke)
Total no. of registered agricultural land parcels	2 455	784	1 009
Identified no. of Landowners (families)	406	143	166
Average parcel size	0.32ha	0.37ha	0.38ha
Average number of parcels pr. owner (family)	6.05	5.48	6.08

Table 8.2: Land ownership in Albania land consolidation pilots. Source: Sallaku, 2011.⁸¹³

When it comes to the first of the three key factors of the land mobility theory, *local agricultural structures*, the ownership structure was similar in the three pilot villages before the project. The average parcel size varied between 0.32 and 0.38 ha (table 8.2). Almost all land parcels in the villages were arable and more or less of the same soil quality. The average number of parcels per owner (family) varied between 5.48 and 6.08. Land ownership was excessive fragmented and the potential for reduction of the fragmentation through the land consolidation project high. Renting of land was uncommon and more than 90 percent of the land parcels were utilized by the owners. Thus, also the land use was excessive fragmented and the potential for a successful pilot high.

When it comes to the second of the three key factors of the land mobility theory, *the available land pool*, almost all the interested landowners expressed during the initial interviews that they wanted to exchange land parcels and reduce the number parcels. Very few were considering to sell land and very few could afford to purchase additional land. The rural families were depending on the small income they could make from the small family farms and had very little alternatives for income outside agriculture. The local rural land market was very weak and almost not existing despite of very high land prices in the few reported transactions. Public agricultural land was not available for the land consolidation process in the pilot villages as all the good quality public land had been privatized during the land reform in the 1990s. As a result, the available land pool was limited to many parcels which could be exchanged for other parcels of the same value neighboring or close to other parcels of the owner. In practice this made the land consolidation planning (the re-allotment plan) extremely difficult without a land pool of parcels from sellers or public owned agricultural land to catalyst the land consolidation process.

When it comes to the third of the three key factors of the land mobility theory, *local knowledge and capacity*, some local knowledge on land consolidation

⁸¹³ Sallaku, F. (2011): *Land consolidation baseline survey in Terbuf Pilot Municipality*. Unpublished project report FAO land consolidation project TCP/ALB/3301.

existed from a World Bank funded land consolidation project implemented in a neighboring municipality during 2002-2004. An awareness campaign was conducted in the FAO project together with the project implementation with a series of community workshops and individual information to the local stakeholders during interviews and negotiations.

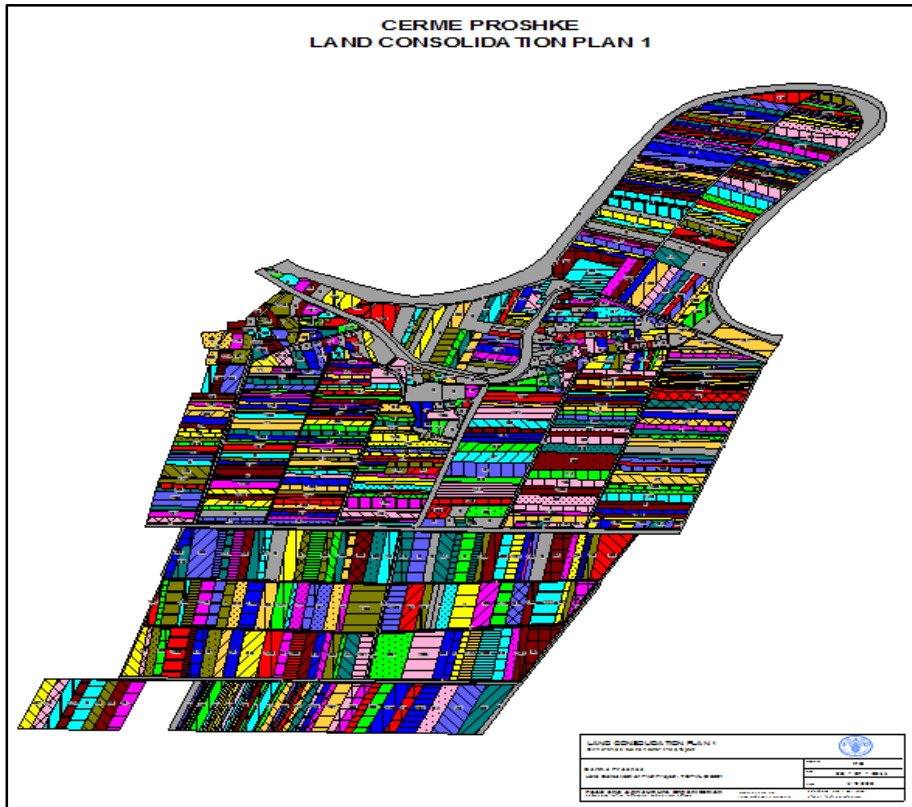


Figure 8.4: Land ownership map (Plan 1) for Cerme Proshke village, Albania (2011). The parcels owned by each owner (family) are identified by a unique color / pattern. Source: Sallaku, 2011. ⁸¹⁴

None of the members of the local expert team and only one of the national consultants had previously had experience with land consolidation pilots. A training programme was developed and training on land consolidation in a voluntary and participatory approach was conducted by the FAO experts and consultants. The training built on the FAO training materials also used in Moldova

⁸¹⁴ Ibid.

(section 8.4.1). The local experts were supervised by the team of national and FAO experts.

We can conclude that the land mobility in the three Albanian pilot villages has been extremely low despite the excessive fragmentation of both land ownership and land use and hence a high potential for improved farm structures through the land consolidation project. This was mainly caused by the limited available land pool, i.e. very few sellers and no available public land to catalyze the process. The available land pool, mainly from owners interesting in exchange of parcels, was not enough to catalyze the re-allotment process. Furthermore, the situation was worsened by complicated and lengthy normal land transaction procedures and family members being absent from the village. The pilots in Albania have, despite the low number of registered land transactions, provided valuable experiences for the development of a future Albanian land consolidation instrument, including useful insight on land mobility.

8.4.3 BOSNIA-HERZEGOVINA CASE

In Yugoslavia, the majority of the agricultural land was in private ownership as well as use throughout the socialist era. As much as 82 percent of the agricultural land was owned by small private family farms in 1985.⁸¹⁵ In Bosnia-Herzegovina, 94 percent of the agricultural land was and still is owned by small-scale private family farmers. Land reform has, as opposed to almost all other CEE countries, not yet been launched in Bosnia-Herzegovina and restitution of state land to former owners remains unsolved.⁸¹⁶ The excessive fragmentation of land ownership which was characteristic before WWII remains basically the same today. Valid statistics do not exist, but the average size of agricultural holdings (owned land) is between 2 and 3 ha, normally distributed into 4-8 parcels. Farm structures are dominated by the many small family farms and few large corporate farms, often operating on leased state land. Land abandonment is widespread even on fertile agricultural land for a number of reasons, such as land fragmentation, limited access to sales markets and the fact that many owners during and after the war in the 1990s have moved away from the communities where their land is located. Land market development is furthermore hampered by out-of-date land registers. Many of the registered owners have been dead for decades and inheritance remains unsolved and unregistered in the families.

The Ministry of Foreign Trade and Economic Relations of Bosnia-Herzegovina has together with the entity governments requested FAO to fund and implement a land consolidation pilot project. The project is being implemented during 2011-2014

⁸¹⁵ Hartvigsen, M. (2013a): *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 28.

⁸¹⁶ *Ibid.*, p. 34-35.

with the same three main components as the project in Albania (section 8.4.2). Land consolidation pilots are being completed in two neighboring municipalities (Trebinje and Ravno) in the Popovo Polje valley in the southwestern part of the country. The re-allotment planning was launched in May 2013. Thus, the land consolidation process was still on-going at the time of writing (September 2013).

	Pilot village 1 (Dracevo Village)	Pilot village 2 (Trncina Village)
Total no. of registered agricultural land parcels	2 285	783
Identified no. of Landowners (families)	192	164
Average parcel size	0.24ha	0.23ha
Average number of parcels pr. owner (family)	11.90	4.77

Table 8.3: Land ownership in Bosnia-Herzegovina land consolidation pilots. Source: Drinjak et al., 2013.⁸¹⁷

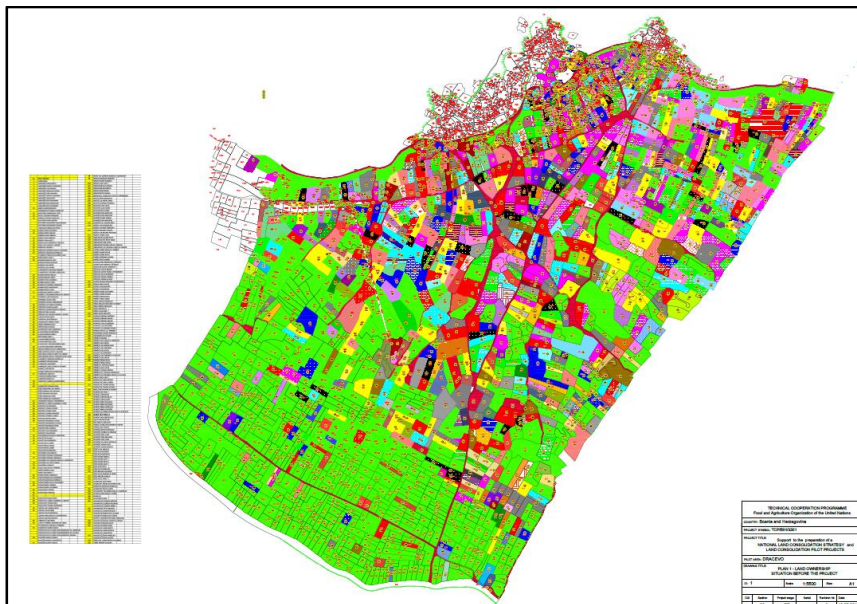


Figure 8.5: Land ownership map (Plan 1) for Dracevo village, Bosnia-Herzegovina (2013). The parcels owned by each owner (family) are identified by a unique color / pattern. The green parcels are owned by the State. Source: Drinjak et al., 2013.⁸¹⁸

⁸¹⁷ Drinjak, R., Maksimovic, R. and Corluka, B. (2013): *Baseline Report – Dracevo Pilot Area*. Unpublished project report FAO land consolidation project TCP/BIH/3301.

⁸¹⁸ Ibid.

When it comes to the first of the three key factors of the land mobility theory, *local agricultural structures*, land ownership in the two pilot villages is excessive fragmented (table 8.3). In Dracevo pilot village, the average parcels size is 0.24 ha and each owner has in average as many as 11.9 land parcels. In Trncina pilot area, the average parcels size is 0.23 ha and each owner has in average 4.77 land parcels. In both pilots, more than 80 percent of the arable land is abandoned because of land fragmentation, absentee landowners, old age of remaining owners and also because of the recurrent risk of flooding in the valley area. In the Dracevo pilot area, 233 ha out of in total 751 ha is owned by the state and rented out to a local corporate farm. The state land is displayed with green color on the land ownership map in figure 8.5. In the Trncina pilot area, only a few hectares of public owned land exists.

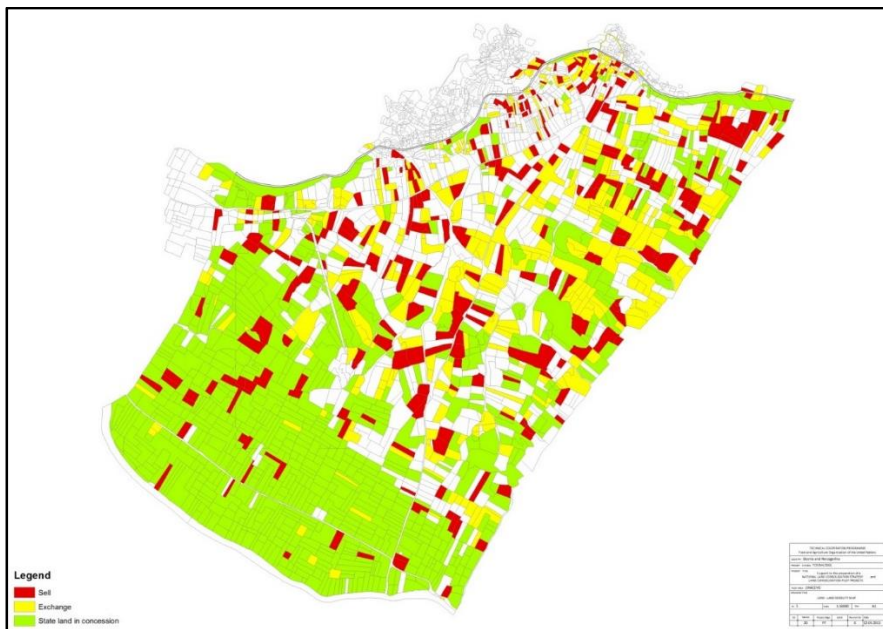


Figure 8.6: Land Mobility map for Dracevo village, Bosnia-Herzegovina (2013). The red parcels are offered for sale by the owners under the precondition that an agreement can be reached with the potential buyer. Yellow parcels are offered for exchange under the precondition that the land given in exchange was acceptable. Green parcels are owned by the State and available for exchange with the private stakeholders. Source: Drinjak et al., 2013.⁸¹⁹

The farm structures vary considerable between the two pilots. In Dracevo, there are around 20 active farmers and most of them are interested in using the project as an opportunity to both reduce fragmentation and increase the size of owned

⁸¹⁹ Ibid.

land by purchasing additional land. In Trncina, most of the farmers are old (average age of owners is around 70 years) and only few are interested in developing their farm activities. Hence, the potential for voluntary land consolidation is much higher in Dracevo than in Trncina.

When it comes to the second of the three key factors of the land mobility theory, *the available land pool*, the final results of the pilots are, as mentioned, not yet available. However, it is expected, based on the interviews of all available landowners during 2012-2013, that the situation also on this aspect of land mobility will vary considerable between the two pilots. In Trncina, as many as 98 percent of the interviewed landowners have indicated interest in participating in the project.⁸²⁰ However, the majority of landowners are interested in reduction of fragmentation through exchange of parcels and only very few are interested in selling parcels or purchase of additional agricultural land. In Dracevo, the situation is quite different. Out of the 2,285 land parcels in the pilot area, the owners have during the initial interviews indicated that 316 parcels can be sold and 530 parcels can be exchanged in the project.⁸²¹ In addition, it is expected that the 233 ha of state land can be exchanged with private land in the land consolidation process. It is according to the law not allowed to sell the state land due to the unsolved question of restitution to the former owners, but state land can after agreement with the entity government be exchanged with private land of the same value. The land mobility map for Dracevo pilot village is displayed in figure 8.6.

When it comes to the third of the three key factors of the land mobility theory, *local knowledge and capacity*, the situation in Bosnia-Herzegovina is completely different from the cases in Albania and Moldova. Land consolidation projects (*komasacija* and *arondacija* in local language) were implemented in Yugoslavia during the socialist era. In Bosnia-Herzegovina from the mid-1970s and until interrupted by the war in the early 1990s.⁸²² The pre-war land consolidation approach was similar to the German and Dutch approach in the 1950s and 1960s, with land consolidation often being implemented in connection with large-scale agricultural development projects. The approach was top-down and the projects often used to enlarge and consolidate state farms sometimes at the expense of the private farmers. There are, however, also many examples where private farmers have benefitted from the projects. Participation in the projects was compulsory for the landowners with land in the project area when the majority of landowners

⁸²⁰ Bukvic, J., Blazevic, V. and Proleta, D. (2013): *Baseline Report – Trncina Pilot Area*. Unpublished project report FAO land consolidation project TCP/BIH/3301.

⁸²¹ Drinjak, R., Maksimovic, R. and Corluka, B. (2013): *Baseline Report – Dracevo Pilot Area*. Unpublished project report FAO land consolidation project TCP/BIH/3301.

⁸²² Hartvigsen, M. (2013a): *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24, p. 30.

voted for the implementation of the project. Hence, land mobility was not an issue at all as the land parcels in the project area by definition were mobile. The tradition for komasacija and arondacija projects before 1990 is both an advantage and a disadvantage for the implementation of the on-going FAO pilots. Most rural stakeholders know from the pre-war projects about the benefits which can be expected from land consolidation projects but they are sometimes also reluctant and fear that they will be forced to participate in the projects against their will. One of the main challenges for the on-going project is to inform the stakeholders in the pilot communities about the approach of the FAO project, e.g. voluntary and active participation of the stakeholders. An awareness campaign is being conducted together with the project implementation in a similar way as in the projects in Albania and Moldova.

A few of the Bosnian experts involved in the FAO land consolidation project worked before the war with the komasacija projects. A training programme has been developed and training on land consolidation in a voluntary and participatory approach is conducted by the international consultants. The training builds on the FAO training materials also used in Albania and Moldova.

We can conclude that the land mobility in the two pilots in Bosnia-Herzegovina can be expected to be very different despite that they are being implemented in the same valley in two neighboring municipalities. In Dracevo, the land mobility can be expected to be high because of the available land pool from owners willing to sell and from the exchange of state land. Furthermore, there are commercial farmers in the village who are interested in developing their business. Supply and demand seems to correspond well.

8.5 LESSONS LEARNED

The analysis of the case studies of land mobility in voluntary land consolidation pilots in Moldova, Albania and Bosnia-Herzegovina (section 8.4.1 – 8.4.3) shows that good results of the land consolidation pilots, i.e. high level of participation among local stakeholders and improvement of the holding and farms structures through reduction of land fragmentation and increased farm sizes, depend on the land mobility in the project areas. Low land mobility is a big practical problem in the process of building up the re-allotment plan, especially in a voluntary land consolidation approach where parcels are only “mobile” after solutions for selling, purchase or exchange are agreed between the owners. However, in order for land consolidation pilots to be widely acceptable to farmers and landowners in most CEE countries, it has been necessary for land consolidation to be introduced as a voluntary approach.

The three pilot villages in Albania and one of the Bosnian villages show very well how low land mobility can hamper the quality and results of the re-allotment planning. The three Albanian villages also show the difference between the potential land mobility and the realized land mobility. Even though many local landowners and farmers were interested in participating in the project, it was very difficult to reach agreements on the re-allotment plan when the parcels were only mobile through exchange. Complicated and time consuming normal land transaction procedures worsened the situation in Albania further.

Low land mobility can also be a problem in a compulsory land consolidation approach where the majority of landowners vote for the implementation of the project if the project is implemented together with a public initiated project that is taking private owned land out of production, e.g. infrastructure or nature restoration projects. In such projects, low land mobility will make it difficult to compensate the local farmers in land and allow them to sustain their production.

Based on the three cases it can be concluded that Sørensen's theory on land mobility, initially developed in a Danish context, seems to be robust and applicable also in a Central and Eastern European land consolidation context when the projects are implemented in a voluntary approach. All three key factors of land mobility are relevant, also in a CEE context. However, in the three case studies, the most important factors of land mobility have been the *local agricultural structures*, especially the availability of local farmers willing to develop and increase their agricultural production, and *the available land pool* from owners willing to sell their land and from available state land. A reasonable balance between supply and demand of agricultural land is crucial for the results of land consolidation projects with a voluntary approach.

8.6 PERSPECTIVES

Several initiatives can be taken to improve land mobility in voluntary land consolidation projects under national land consolidation programmes.

A first way to improve land mobility is by improving the procedures to be used for land consolidation. The development and adoption of a good legal framework is an important step. The pilots in Moldova and Albania have shown that in the absence of a good legal framework the existing procedures for transfers result in obstacles that can prevent or discourage landowners from participating in projects. Land consolidation legislation should provide simplified and cost-effective land transaction procedures that eliminate such obstacles. The same obstacles are hampering the normal development of the rural land market and a good land registration system will also contribute to increase of land mobility in land consolidation projects. Procedural reforms that lower transaction costs of

participation can also improve land mobility as this increases the motivation of the local stakeholders to participate. The pilots have shown that land mobility tends to increase when more landowners become interested in participating in a project, and hence more land parcels become available for transfer. One way, used in the three cases studies, is that projects pay for the transfer and registration costs.

Procedures for a land consolidation project can also be revised to address obstacles that prevent people from entering into transactions. For example, in the pilot villages of Moldova the project teams helped the participating landowners to resolve existing registration problems, such as the many situations where the registered owners were deceased. This was an additional motivation for many families to participate in the land consolidation project. Addressing such land registration problems should become an integrated part of the procedures in an ongoing land consolidation programme. In this way, land consolidation projects can help to remove obstacles that are preventing families from participating in land markets.

A second way to improve land mobility is by improving the implementation of land consolidation projects. This can be done by ensuring that the projects are of sufficient length (e.g. 2-3 years) to allow for the resolution of problems affecting land transfers, and by considering the farming seasons in the project schedule (e.g. with negotiations taking place in winter when farmers are not busy in the fields).

Developing the capacity of land consolidation professionals can also improve the implementation of projects. When facilitating agreements between the local stakeholders, the land consolidation professionals should be able to encourage them to be flexible and open to alternative solutions. Landowners have a natural tendency to propose solutions for the re-allotment plan based on the often limited information they have. They may know what family members or neighbors are interested in and try to coordinate this with their own interests. They are for natural reason often not considering solutions that involve stakeholders who they do not know or who are absent from the village. The land consolidation professionals, however, have information on the interest of all or at least most of the stakeholders and should be able to open up for solutions which benefit as many of the stakeholders as possible.

The implementation of land consolidation projects can also be improved when there is flexibility in the demarcation of the project area. For example, in the Trncina pilot village in Bosnia-Herzegovina (section 8.4.3) where the land mobility is very low, the project area has been enlarged in an attempt to increase land mobility. The original project area is now the “core” project area with surrounding areas. Some of the landowners with land parcels in the core area also

have parcels in the surrounding areas. In these areas, land transactions can be included in the land consolidation pilot only as long as this will increase the land mobility in the core project area, e.g. by exchanging parcels in the core project area in exchange for parcels outside the core area. This will create “space” for better solutions both inside and outside the core project area.

The two ways described above aim to improve the mobility of privately-owned land in the project area. A third way to improve land mobility in a land consolidation project is through the availability of land owned by the public sector (e.g. the central state or regional and local governments). Adding a supply of publicly-owned land increases the total amount of land that is available for sale or exchange in the project. In this way, the public sector (i.e. the owner of the public land) becomes a participant in the land consolidation project.

Publicly-owned land can be incorporated in projects by aligning the privatization process with land consolidation goals. For example, the use of existing publicly-owned agricultural land when available is an obvious solution as the case in Dracevo village in Bosnia-Herzegovina shows. If allowed according to law in the country, the possibility of not only exchanging but also selling publicly-owned agricultural land further increases land mobility. In this way, as alternative to selling publicly-owned land at auctions, its slow privatization through land consolidation projects is able to contribute to agricultural and rural development. Even if the legislation in the country is not currently allowing sale of state land, as in Bosnia-Herzegovina, not only private owners but also the state can benefit from the project through the enlargement of parcels sizes which increases the market value of the state land as it does with private owned land.

In contrast, land banks offer a more proactive approach to using publicly-owned land in land consolidation projects. In many Western European countries, state land banks operating in integration with the land consolidation programmes are a tool which can be used, among other objectives, to increase land mobility in land consolidation projects. Introduction of land banks in the CEE countries together with the building up of national land consolidation programmes is also an obvious long-term solution in these countries. Land banking has been widely discussed among land management professionals in the region during several workshops over the last decade (e.g. FAO workshops in Tonder, Denmark 2004, Prague 2010, and Budapest 2011). So far, however, in CEE countries, only few attempts have been made to actually create state land banks with the main objective to strengthen the land consolidation instruments.

Despite the limited progress with land banks to date in CEE countries, the experience of Western European countries suggest that their use can greatly facilitate land mobility in land consolidation projects. The land bank purchases

agricultural land from private owners in or around future land consolidation project areas, normally on market conditions, holds it temporary for a few years while the land consolidation project is being executed, and sells the land again as part of the land consolidation project. The available land pool is enlarged and the land bank parcels are used to catalyze the land consolidation process and better results are obtained. Thus, the full potential of both land consolidation and land banking is, in situations with low land mobility, only reached when both instruments are applied together.

8.7 FINAL REMARKS

We have seen that land mobility is a key issue determining success or failure of land consolidation projects in a voluntary approach. Land consolidation instruments are not existing in a vacuum but need, in order to be successful, to be integrated in the countries overall land policy.

The three cases show that the land mobility theory of Sørensen when applied in a CEE context also can be used to identify the factors which determine the land mobility in the specific situation and hence to a large degree the outcome of the land consolidation projects. Furthermore, the factors determining land mobility can be used when designing the overall land policy in a way that can increase land mobility and hence supports the implementation of land consolidation projects.

If the land mobility is low as in the Albanian case, even the best designed land consolidation instrument needs to be supported by other land policy tools which can increase the land mobility in order to be successful. The obvious long-term response to low land mobility, also in CEE, would be the introduction of state land banks as explained in section 8.6. A number of CEE countries have a reserve of state agricultural land left over after the finalization of land reforms. In CEE countries with on-going land consolidation programmes such as Lithuania, Slovenia, Poland, the existing state owned agricultural land could be the basis for a state land bank with the main objective of supporting the implementation of land consolidation projects. This, however, would necessitate strong coordination in the countries between the management of the land consolidation programmes and state land management and call for a strategically political decision to use the available state land where appropriate to improve land mobility in land consolidation projects and in this way to improve agricultural structures through reduction of land fragmentation and enlargement of farm sizes.

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REFERENCES

- Bukvic, J., Blazevic, V. and Proleta, D. (2013): *Baseline Report – Trncina Pilot Area*. Unpublished project report FAO land consolidation project TCP/BIH/3301.
- Cashin, S.M., McGrath, G. (2005): *Establishing a modern cadastral system within a transition country: Consequences for the Republic of Moldova*. Land Use Policy 23 (2006), 629-642.
- Drinjak, R., Maksimovic, R. and Corluka, B. (2013): *Baseline Report – Dracevo Pilot Area*. Unpublished project report FAO land consolidation project TCP/BIH/3301.
- FAO (2003): *The design of land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Studies no. 6. Rome.
- FAO (2004): *Operations manual for land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Manuals no. 1. Rome.
- FAO (2006): *FAO Land Tenure Training Materials on Land Consolidation Pilot Projects*. Rome.
- FAO (2008): *Opportunities to mainstream land consolidation in rural development programmes of the European Union*. FAO Land Tenure Policy Series no. 2. Rome.
- FAO (2012): *Voluntary guidelines on the responsible governance of tenure of land, fisheries and forest in the context of national food security*. Rome.
- Flyvbjerg, B. (2011): *Case Study*. In Denzin, N. and Lincoln, Y. (eds): *The Sage Handbook of Qualitative Research*, 4th Edition (Thousand Oaks, CA: Sage, 2011), Chapter 17, pp. 301-316.
- Hartvigsen, M., Gorgan, M., Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012. Web link: <http://www.fao.org/nr/tenure/land-tenure-journal/index.php/LTJ/article/view/59>
- Hartvigsen, M. (2006): *Land Consolidation in Central and Eastern European Countries*. XXIII FIG Congress Munich, October 2006. Web link: http://www.fig.net/pub/fig2006/papers/ts71/ts71_04_hartvigsen_0882.pdf

- Hartvigsen, M. (2008): *Moldova Land Re-parceling Pilot Project – Mid-term Report*. Niras, Orbicon, ACSA and Terra Institute. World Bank, Rural Investment and Services Project II.
- Hartvigsen, M. (2012): *Note on the outcome and lessons learned from land consolidation pilots in three villages in Terbuf Commune, Albania*. Unpublished project document FAO land consolidation project TCP/ALB/3301.
- Hartvigsen, M. (2013a): *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24. Web link: <http://www.fao.org/docrep/017/aq097e/aq097e.pdf>
- Hartvigsen, M (2013b): *Land Reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2006), 330-341. Weblink: <http://www.sciencedirect.com/science/article/pii/S026483771300166X>
- Lerman, Z., Csaki, C., Feder, G. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexington Books.
- Sallaku, F. (2011): *Land consolidation baseline survey in Terbuf Pilot Municipality*. Unpublished project report FAO land consolidation project TCP/ALB/3301.
- Sørensen, E.M. (1987): *Lokal Landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab*. Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21.
- Swinnen, J., Buckwell, A, Mathijs, E. (Eds.) (1997): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd., Aldershot.
- Thomas, J. (2006): *Property rights, land fragmentation and the emerging structure of agriculture in Central and Eastern European countries*. Electronic Journal of Agriculture and Development Economics. Vol. 3, No. 2, 2006, 225-275.
- Van Dijk, T. (2003a): *Scenarios of Central European land fragmentation*. Land Use Policy 20 (2003).
- Van Dijk, T. (2003b): *Dealing with Central European land fragmentation: A critical assessment of the use of Western European Instruments*. Eburon Delft.
- Vitikainen, A. (2004): *An Overview of Land Consolidation in Europe*. Nordic Journal of Surveying and Real Estate Research. Vol. 1, 2004, p. 25-44.
- Yin, R. K. (2009): *Case Study Research – Design and Methods*. Fourth Edition. Sage Publications Inc.

PART 4

The future of land consolidation and land banking in Central and Eastern Europe

Part 4 looks to the future of land consolidation and land banking in the 25 study countries.

In **Chapter 9**, the suitability of the two classical European land consolidation models; i) comprehensive and compulsory land consolidation and ii) simple voluntary land exchange are discussed in a CEE context and rejected as fully adequate. A third model, integrated voluntary land consolidation, is presented and discussed as an outline for tailor-made land consolidation instruments in the CEE countries. The chapter is a peer-reviewed paper accepted for publication in the *FAO Land Tenure Journal* (forthcoming issue to be published in early 2015).

Finally, **Chapter 10** provides the general conclusions and perspectives of the research presented in the thesis.

CHAPTER 9

9 INTEGRATED VOLUNTARY LAND CONSOLIDATION – A THIRD MODEL FOR LAND CONSOLIDATION AND LAND BANKING IN CENTRAL AND EASTERN EUROPE

Paper accepted for publishing in

Land Tenure Journal (forthcoming Spring 2015)

Abstract

The agricultural structures in Central and Eastern Europe (CEE) are in many countries characterized by excessive fragmentation of ownership to agricultural land and in several countries also of fragmentation of land use and of small sizes of agricultural holdings and farms. In some countries this situation is a result of recent land reforms. In other countries, the structures are historically determined.

Since the early 1990s, CEE countries have started to introduce land consolidation instruments to address the problems mainly with land fragmentation. A recent study has documented that until now, seven CEE countries have operational national land consolidation programmes and additional 13 countries have introduced land consolidation instruments without yet having an operational programme. It can be expected that four to six, perhaps more, of the 13 countries may have operational programmes within the next four – five years. While development of land consolidation instruments are in progress in CEE, the study shows that introduction of land banking instruments have largely failed, at least as a tool to support land consolidation programmes.

Introduction of land consolidation in CEE has been inspired by Western European land consolidation approaches and countries have often felt that they had to choose between either *simple voluntary land exchange* or *comprehensive and compulsory land consolidation*. The paper discusses the application of the two classical models in a CEE context. It is the experience in CEE, that countries often cannot afford very comprehensive land consolidation projects but also that simple

and voluntary land exchange is not solving the structural problems. The study documents the need to further develop a third land consolidation model more suitable for CEE and which the countries can draw on while preparing tailor-made solutions. Such model – *Integrated voluntary land consolidation* - is discussed in the paper. In this model, the re-allotment planning is optimized compared to the simple voluntary model and conducted integrated with local community development planning as rural communities in CEE usually will have many more development needs than the layout of land parcels. The re-allotment process is optimized through various features such as working with a core and a secondary project area, the use of fixed parcels and the active involvement and motivation of landowners. Finally, when land mobility is low, it is recommended to establish land banks to support the voluntary land consolidation instruments.

Keywords

Land consolidation, land banking, land mobility, re-allotment planning, Central and Eastern Europe.

9.1 INTRODUCTION

Most countries in Central and Eastern Europe (CEE) have in the last quarter of a Century introduced land consolidation instruments mainly in response to land fragmentation problems in agriculture. Land reforms with restitution of land rights to former owners or distribution of state agricultural land to the rural population have in most of the countries in the region led to fragmentation of land ownership and in some countries also to excessive fragmentation of land use hampering productivity and competitiveness of farms.^{823 824}

Only very few comparative papers exist on the introduction of land consolidation and land banking instruments in CEE after 1989 and the beginning of transition (e.g. Van Dijk, 2003⁸²⁵; Thomas, 2006⁸²⁶; Hartvigsen, 2006⁸²⁷).

A recent study has reviewed and analyzed for the first time the experiences from the introduction of land consolidation and land banking instruments in the CEE

⁸²³ Hartvigsen, M., (2013a): *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24.

⁸²⁴ Hartvigsen, M. (2013b): *Land Reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), 330-341.

⁸²⁵ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon.

⁸²⁶ Thomas, J. (2006): *Attempt on Systematization of Land Consolidation Approaches in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2006.

⁸²⁷ Hartvigsen, M. (2006): *Land Consolidation in Central and Eastern European Countries*. Conference paper for FIG Congress, Munich 2006.

countries in a systematic way. The study found that introduction of land consolidation instruments is well on the way in more than half of the countries.⁸²⁸

In total, more than 50 international donor funded technical assistance projects have supported the introduction of land consolidation instruments in the CEE countries from the middle of the 1990s and onwards. The CEE region has not yet fully found its own approaches to land consolidation and the instruments applied can to a large degree be traced back to the Western European countries where they were inspired. Furthermore, it is remarkable how often the CEE countries have ended up choosing between either a *comprehensive and compulsory land consolidation approach* or a *simple and voluntary approach*. FAO has in its field projects applied a voluntary approach but in an integrated local rural development context. The study has revealed the need to further develop a third model for land consolidation in CEE, which would borrow from both classical models and which could be entitled *integrated voluntary land consolidation*. The study mentioned above also documented how land banking instruments have largely failed in CEE at least as a tool to support land consolidation instruments by making state land available for the re-allotment process and hence increase land mobility. This is remarkable for two reasons. First, field experiences in CEE have often found low land mobility to limit the outcome of land consolidation efforts. Second, because many countries in the region have a large stock of remaining state land after finalization of land reform, which represents a unique possibility for improving farm structures through land banking.⁸²⁹

The study of land consolidation and land banking in CEE was carried out first through desk studies of all available relevant documents for each country. Second, key persons from each country, e.g. from Ministry of Agriculture, cadastre agency, academia and international and national consultants involved in land consolidation projects, were identified and 29 semi-structured qualitative research interviews were conducted with 41 key persons. The interviews were used mainly to fill the gaps in the written documentation, to verify information and to get access to the most recent development in the countries, which was often not yet documented in writing. The aim of the study has been to compare land consolidation and land banking activities between the countries and provide an overview.

In this paper, the experiences so far with land consolidation and land banking in CEE are presented and discussed in section 9.2 based on the conducted study. The

⁸²⁸ Hartvigsen, M. (2015): *Experiences with land consolidation and land banking in Central and Eastern Europe after 1989*. FAO Land Tenure Working Paper 26.

⁸²⁹ Van Dijk, T. and Kopeva, D. (2004): *Land banking and Central Europe: future relevance, current initiatives, Western European past experience*. Land Use Policy 23 (2006), 286-301.

CEE countries are divided in three groups; i) *those already with on-going land consolidation programmes*, ii) *those where land consolidation has been introduced but not yet with a programme* and iii) *those with no or very little experience with land consolidation*.

In section 9.3, the suitability of the two classical land consolidation models is discussed in a CEE context based on the findings in section 9.2 and the outline of a third and hopefully better suitable model - *integrated voluntary land consolidation* – is presented and discussed. Section 9.4 provides conclusions and perspectives.

Thus, the paper aims at answering the research question: *What is the main content of a model for land consolidation and land banking instruments suitable for Central and Eastern Europe based on previous experiences in the region and international best practice?*

9.2 OVERVIEW OF LAND CONSOLIDATION AND LAND BANKING IN THE CEE COUNTRIES AFTER 1989

A recent comparative study has analyzed the introduction of land consolidation and land banking instruments in CEE and found that seven of 25 study countries already have ongoing national land consolidation programmes.⁸³⁰ 13 countries have introduced land consolidation, often through land consolidation pilots with international technical assistance, but have not yet a programme and finally five countries have so far had very little or no experience with land consolidation. In figure 9.1, the study countries are divided in the above mentioned three groups. In this section, the main findings of the study are presented for each of the three country groups and an overview of experiences and lessons learned provided.

The introduction of land consolidation and land banking in CEE has been supported by international technical assistance projects funded by international development institutions and donors. FAO has taken the lead in this process by elaborating policy guidelines for land consolidation and implementing field projects (FAO, 2003⁸³¹; FAO, 2004⁸³²; FAO, 2008⁸³³; FAO, 2012⁸³⁴). In addition,

⁸³⁰ Hartvigsen, M. (2015): *Experiences with land consolidation and land banking in Central and Eastern Europe after 1989*. FAO Land Tenure Working Paper 26.

⁸³¹ FAO (2003): *The design of land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Studies 6. Rome.

⁸³² FAO (2004): *Operations manual for land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Manuals no. 1. Rome.

⁸³³ FAO (2008): *Opportunities to mainstream land consolidation in rural development programmes of the European Union*. FAO Land Tenure Policy Series 2. Rome.

⁸³⁴ FAO (2012): *Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security*. Rome.

FAO has been co-organizer of in total 15 regional workshops and conferences during 2002 – 2014 often with between 50 and 100 participants from 20 to 30 European countries and a unique network of experts interested in land consolidation, land banking and related topics has been created. From 2011, the network has been known as the LANDNET and is in principle open for land management experts throughout Europe.⁸³⁵

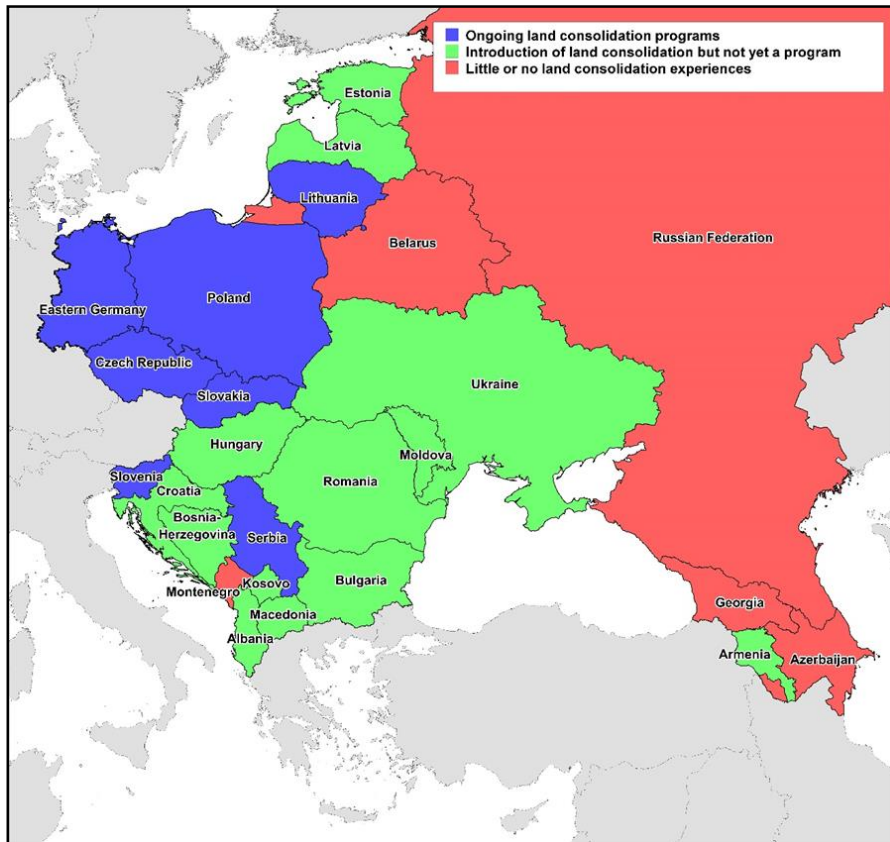


Figure 9.1: Status of the development of land consolidation programmes in Central and Eastern Europe (October 2014).

9.2.1 COUNTRIES WITH ON-GOING LAND CONSOLIDATION PROGRAMMES

A minority of the CEE countries had national land consolidation programmes between WWI and WWII, some even earlier, and all with the main objective to

⁸³⁵ Van Holst, F., Eberlin, R. and Onega Lopez, F. (2014): *LANDNET and Land Market Issues in Europe*. *ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement* 3/2014.

reduce land fragmentation. In Hungary, land consolidation was introduced in 1908, in Bulgaria in 1911, while Poland (1923), Yugoslavia (1925) and Estonia (1926) introduced land consolidation instruments in the 1920s around the same time as the Netherlands (1924) and Denmark (1924) adopted the first “modern” land consolidation laws. Among the CEE countries, only Poland and some of the republics in Yugoslavia continued land consolidation projects throughout the collectivization period after WWII. The main reason for this was that collectivization had largely failed in Poland and Yugoslavia.⁸³⁶ In Poland, 75 % of the agricultural land remained in private ownership as well as in private use in small-scale family farms. In Yugoslavia, the situation was similar and around 80 % of agricultural land remained in private ownership and use. In Poland, land consolidation was implemented on an area of 10 million ha (more than half of the total agricultural land) during the period 1945-1998.⁸³⁷ Land consolidation in both Poland and Yugoslavia was applied in a compulsory, comprehensive and top-down approach in connection with large-scale agricultural development projects such as irrigation and land reclamation and often used to consolidate collective and state farms on the expense of the small private farms. In addition, land consolidation during the socialist era often led to loss in biodiversity and landscape degradation. Thus, land consolidation was often discredited. Poland has continued its land consolidation programme without interruption but with adjustments after 1989 while land consolidation activities in Yugoslavia, except in Slovenia, were stopped in the early 1990s because of the outbreak of the Balkan wars.

Today, seven of the CEE study countries are found to have national land consolidation programmes when assessed against minimum requirements for having an operational land consolidation programme (box 9.1). Two of these, Poland and Slovenia, had as explained already ongoing programmes at the beginning of transition after 1989. In three of the seven countries, the Czech Republic, Slovakia and Eastern Germany, land consolidation instruments and programmes were established in the early 1990s together with the launch of land reform. In Lithuania, a land consolidation programme was initiated in 2006 after land reform with restitution to former owners was almost finalized. Finally, in Serbia a land consolidation programme was re-established in 2007 after modernization of the land consolidation instrument applied during the Yugoslavia era.

⁸³⁶ Hartvigsen, M., (2013a): *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24.

⁸³⁷ Kozłowski, J. and Zadura, A. (2007): *Land consolidation and exchange works in Poland: statute, experiences and priorities*. Paper presented at FAO regional land consolidation workshop in Prague.

Box 9.1: Minimum requirements for having an operational land consolidation programme

- *Land consolidation, as a land management instrument, is embedded in the overall land policy of the country.*
- *A legal framework for land consolidation has been adopted (usually in the form of legal provisions and detailed regulations).*
- *A lead public agency for land consolidation has been established and delegated to manage and run the national land consolidation programme.*
- *Secure funding on an annual basis allows the lead agency to plan activities for at least two to three years ahead.*
- *Technical and administrative capacity has been developed to implement land consolidation projects in the field and to manage the programme.*

Source: Hartvigsen, 2015.

When looking at the driving factors behind introduction of land consolidation in the seven countries with land consolidation programmes, the countries can be divided into two groups. In Poland, Slovenia, Lithuania and Serbia, land consolidation was mainly introduced as an instrument to address the problems with fragmentation of both land ownership and land use and thus as a tool to improve productivity and competitiveness of farms. In the Czech Republic, Slovakia and also to some extent in Eastern Germany, land consolidation has not so much been focused on improving the land use conditions but more on addressing the fragmentation of land ownership integrated with the land reform process and the building up of land administration systems (i.e. cadastre and land registration). Land consolidation in the Czech Republic and Slovakia is very much a technical exercise with focus on surveying and of updating cadastre and land register. Hence, in the Czech Republic, half of the budget of land consolidation projects is spent on land surveying and improved land registration.⁸³⁸

In Czech Republic, Slovakia and Eastern Germany, an additional driving factor has been the wish to establish a land management tool for improving nature, environment and landscape as well as local agricultural and rural development

⁸³⁸ Kaulich, K. (2013): *Importance and Prospect of Land Consolidation in the Czech Republic*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013.

needs, e.g. new field roads and access to parcels left without road access after land reform. These countries have today very good experiences in using land consolidation instruments integrated with local rural development needs through the elaboration and implementation of a *plan of common facilities* (community development plan) in connection with land consolidation projects.

The six of the seven countries, which are EU members, are all funding the land consolidation programmes and projects with EU co-funding under the Rural Development Programmes (RDP). Serbia is the only non-EU member country with a national land consolidation programme and as EU candidate country, Serbia is still not directly eligible for co-financing of a land consolidation measure under the RDP. In addition to creating new funding opportunities, the preparation for EU accession in especially Poland and Slovenia, the two countries with programmes already during the socialist era, has turned land consolidation in a direction more friendly towards nature and environment. Furthermore, EU accession in the six member countries has led to introduction of environmental impacts assessments (EIA) of land consolidation projects as a safeguard against negative impact on nature and environment.

Six of the seven countries, Poland, Slovenia, Czech Republic, Slovakia, Serbia and Eastern Germany apply land consolidation in a compulsory approach where the projects are approved administratively when the majority of the landowners in the project area accept the project. In Eastern Germany simple voluntary projects are implemented (voluntary land exchange) in addition to the compulsory projects. Lithuania is the only of the seven countries with ongoing land consolidation programmes where land consolidation is applied only in a voluntary approach. The countries with a compulsory approach were heavily inspired by the German land consolidation tradition when building up their programmes, while land consolidation in Lithuania was inspired by the voluntary Danish land consolidation tradition.

In most CEE countries, structural problems in agriculture are caused by both land fragmentation and small agricultural holding and farm sizes. However, in all six countries with a compulsory land consolidation approach, the participants in principle receive land of the same value as they join the re-allotment planning with. The outcome of the projects is consolidation of the parcels for each owner but the total number of owners usually remain almost the same. This means that the potential to use the land consolidation instruments to facilitate enlargement of agricultural holdings and farms is not utilized. Landowners and farmers interested in purchasing additional agricultural land are on their own forced to purchase land parcels from private owners willing to sell at local land market conditions as selling and purchase between the participants is usually not facilitated by the land consolidation professionals managing the projects. In

Lithuania, selling and buying is facilitated in the land consolidation process and the enlargement of holdings and farms is an objective pursued through the projects equal to the objective of reducing land fragmentation.

The experiences of the programme-countries show that it may not necessarily have to be a very lengthy process to build up land consolidation programmes and have them operational even when starting from the ground. Thus, Czech Republic and Slovakia managed to have operational land consolidation programmes already after a few years of preparation in the early 1990s and Lithuania came from the initiation of the first small pilot project in 2000 over a second round of pilots and adoption of legal framework to beginning of the first 14 projects under the national programme less than six years later in 2006. The experiences show, however, also that everything is not running perfectly from day one and adjustment of the legal framework and procedures may often be necessary after a few years of field experiences.

The seven programme-countries all have a considerable amount of remaining state agricultural land after finalization of land reform. This land stock is usually managed by state land funds. In Slovenia, around nine percent of the total agricultural land is possessed by the state land fund. In Lithuania, it is expected that 400,000 ha will remain in state ownership after complete finalization of land restitution. The study shows that none of the seven countries use the available state land as a state land bank to support their land consolidation instruments as it is the case in Western European countries such as Netherlands, Germany and Denmark.⁸³⁹ Instead, state land is consolidated in the same way as private land. Despite the available state land, it can be concluded that land banking instruments opposed to land consolidation instruments have largely failed throughout CEE, at least as a tool to support land consolidation instruments. The availability of agricultural land from a state land bank is especially important in land consolidation projects with a voluntary approach but also in compulsory projects when land consolidation is applied together with public area demanding projects where landowners are compensated with other land, e.g. in connection with infrastructure or nature restoration projects. Available state land increases the land mobility in the projects and thus increases the chances for successful implementation and the CEE countries are often characterized by low land mobility.⁸⁴⁰

⁸³⁹ Hartvigsen, M. (2015): *Experiences with land consolidation and land banking in Central and Eastern Europe after 1989*. FAO Land Tenure Working Paper 26.

⁸⁴⁰ Hartvigsen, M. (2014a): *Land Mobility in a Central and Eastern European Land Consolidation Context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014.

9.2.2 COUNTRIES WITH LAND CONSOLIDATION EXPERIENCES BUT NOT YET A NATIONAL PROGRAMME

13 of the CEE countries have since the beginning of transition in 1990 introduced land consolidation instruments (figure 9.1) but are not yet meeting all the minimum requirements for having an operational land consolidation programme (box 9.1).

The driving factor behind introduction of land consolidation in this group of countries has mainly been land fragmentation and small farm and holdings sizes and the recognition of the importance of these structural problems in agriculture among decision makers. The integration of land consolidation with local rural development needs has only been a secondary driving factor in the countries and seems often to have been included in international technical assistance projects after the recommendation of international institutions, donors and international experts with a background in land consolidation in Western Europe.

The typical introduction of land consolidation instruments in CEE has been through international technical assistance projects funded by donors and international organizations. In total, more than 50 international technical assistance projects have from the middle of the 1990s and onwards supported the introduction of land consolidation instruments in CEE. Projects have usually included the implementation of land consolidation pilot projects. In total, pilots have been implemented in 15 of the study countries of which 12 belong to the second group of countries not yet with a programme and three to the group of countries already with ongoing programmes (figure 9.2).

In all countries with pilots except in Estonia, the first pilots have been implemented with a voluntary approach. There are good reasons for this. First, compulsory land consolidation requires the adoption of special legal framework, which was not in place in the countries when the first pilots were started except in Estonia, where a law with a compulsory approach was adopted in 1995 before pilots were initiated in 1998. Second, many of the countries have started land consolidation pilots in the 1990s and beginning of 2000s relatively shortly after private ownership of agricultural land was restituted or distributed to the rural population after the decades of collectivization. In this situation, where private land ownership is not taken for granted, many in the rural population were afraid once again to lose their land rights also through land consolidation project and the trust in government was in general low.

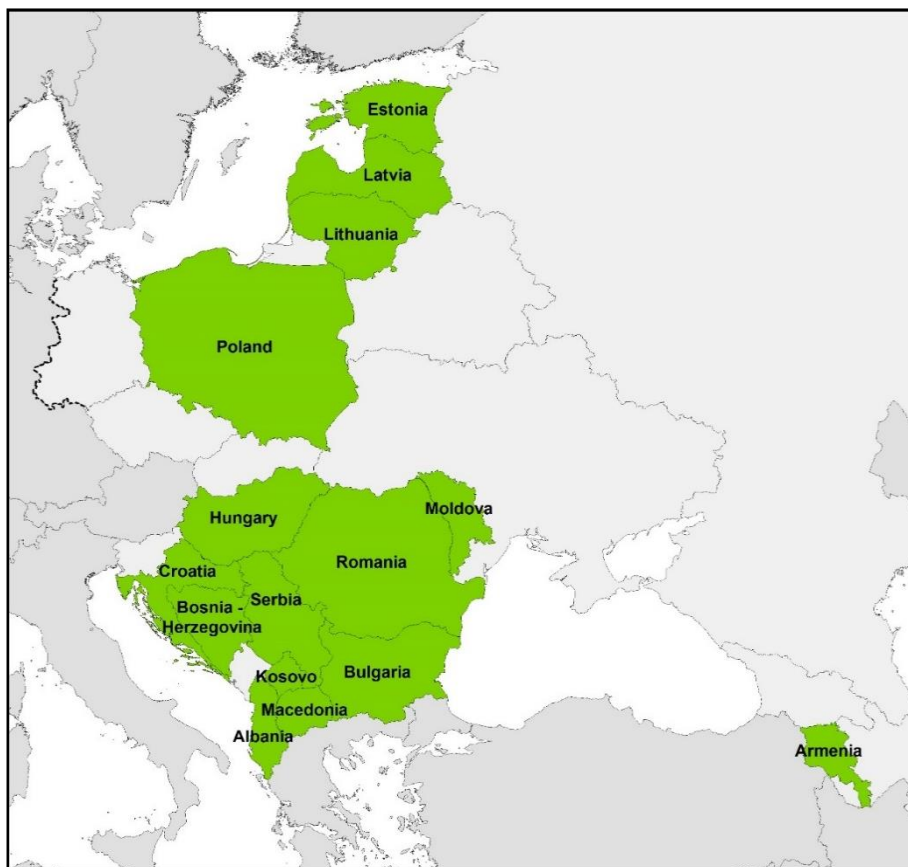


Figure 9.2: CEE countries where land consolidation pilot projects have been implemented with international technical assistance.

Land consolidation pilots in the CEE countries have provided valuable experiences and understanding of bottlenecks and constraints in existing procedures and legal provisions hampering both land market development and implementation of land consolidation projects. In this way, the pilots often have documented and justified the need for land consolidation legislation in the country. This has been the case in several countries including Albania, Hungary, Lithuania, Latvia, Croatia and the former Yugoslav Republic of Macedonia. In nine of the study countries, international technical assistance projects have supported the development of a national land consolidation strategy. The experiences gained in pilots have been feeding directly into the strategy formulation. In Lithuania and Serbia, already with ongoing land consolidation programmes, the strategy development was crucial to ensure the political support necessary to take the final steps towards

operational programs. The same is the case in the FYR of Macedonia, Kosovo and Bulgaria, all three close to have operational land consolidation programmes.

The study reveals that five of the 13 countries with land consolidation experience but not yet a programme, Latvia, Bulgaria, FYR of Macedonia, Kosovo and Croatia, are coming close and may be expected to have operational programmes within the next four – five years if the preparation continues to go well. Based on the study, it can be observed that the biggest remaining challenges in these countries are to build up technical and administrative capacity to implement land consolidation projects in the field and to manage the programmes as well as to secure funding for the programme. The road from the first pilot to an operational land consolidation programme is often not straight forward and may be paved with bumps and detours. The study demonstrates very well how political support can emerge and vanish again over night after elections or change in minister. There are in Latvia and Estonia the good examples of how the interest and political support can re-emerge after being on stand-by for more than a decade. This gives hope for countries such as Armenia, Moldova and Albania where the development towards a land consolidation programme seems to be temporarily on hold. Land consolidation is still vulnerable until national programmes are operational and the first regular projects are in progress. The need for further international technical assistance is these years moving from support to the first pilots to supporting the preparation of national programmes. Ongoing projects in Serbia and FYR of Macedonia are good examples of this.

In all countries, not only in CEE but in general, land consolidation projects and programmes are implemented in the cross field between on one side agricultural development and a more rational and productive land use and on the other side land administration with focus on cadastre and land register. As discussed above, the focus and objectives in this respect vary between the countries. It is, however, crucial that land consolidation instruments are embedded in the overall land policy of the country and that all relevant institutions including Ministry of Agriculture and cadastre agency are fully involved.

9.2.3 COUNTRIES WITH LITTLE OR NO LAND CONSOLIDATION EXPERIENCES

Five of the study countries have so far had little or no experience with introduction of land consolidation and land banking. The reasons for this vary. In Belarus, where private ownership of agricultural land is still not allowed, except to the small household plots around the villages, introduction of land consolidation and land banking is currently not relevant.

In Georgia, Azerbaijan and Montenegro, agricultural structures exist with small holding and farm sizes and excessive fragmentation of both land ownership and

land use, similar to the CEE countries in which the same problems have been addressed by introducing land consolidation instruments. So far, land consolidation has not been a priority of shifting governments in these three countries and Montenegro is the only of the seven countries of former Yugoslavia so far with no experience in land consolidation.

In Russia, most of the agricultural land has been privatized but to a large degree remain owned by the rural population through land shares and the land is mainly utilized by large corporate farms through lease agreements with the shareholders. In this situation with low land use fragmentation, a land consolidation instrument as applied in many Western European countries is not immediately relevant.

9.3 MODELS FOR LAND CONSOLIDATION AND LAND BANKING IN CENTRAL AND EASTERN EUROPE

The CEE region has not yet fully found its own approaches to land consolidation and the instruments can to a large degree be traced back to the Western European countries where they were inspired, i.e. land consolidation in Czech Republic and Slovakia is closely related with the German tradition and land consolidation in Lithuania with the Danish. We will now, based on the experiences with land consolidation and land banking in CEE explained in section 9.2, discuss the suitability of the two classical European land consolidation models; *comprehensive and compulsory land consolidation* versus *simple and voluntary land consolidation* in a CEE context.

As discussed in section 9.2.1, six of the seven CEE countries with land consolidation programmes apply land consolidation in a compulsory and at least to some degree also in a comprehensive approach. Lithuania is the only programme-country with a completely voluntary approach, while both compulsory and voluntary land consolidation is applied in Eastern Germany. Hence, there is relatively little experience with simple voluntary land consolidation among the CEE programme-countries. In the 15 CEE countries where land consolidation pilots have been implemented with international technical assistance, all except Estonia have applied a voluntary approach in the first pilots.

9.3.1 COMPREHENSIVE AND COMPULSORY VERSUS SIMPLE AND VOLUNTARY LAND CONSOLIDATION

The discussion on land consolidation approaches in CEE has often been limited to the above mentioned two models, which were developed in Western Europe, mainly in Germany and the Netherlands. Now, what are the strengths and weaknesses of these two classical land consolidation models in a CEE context?

The main strength of *comprehensive and compulsory land consolidation* is of course that all land parcels in the project area participate in the project where the old boundaries between parcels usually are “erased” on the cadastre map and a new parcel layout designed with much fewer parcels, in principle one large and well-shaped parcel for each participating landowner. Thus, the model provides good results in terms of reduction of land ownership fragmentation. The model also allows for integrating the land consolidation project with local needs for agricultural and rural development, nature and landscape protection etc. through the elaboration and implementation of community development plan as we saw in the good examples from the Czech Republic and Slovakia. Another significant advantage of the model is that cadastre and land register is often completely renewed and updated including new surveying works in the field.

The study shows, however, that the application of *comprehensive and compulsory land consolidation* in a CEE context also has several weaknesses. First, the model is time consuming and the process lengthy. In the Czech Republic, the duration of comprehensive projects have in recent years been five-six years, earlier even longer. In Slovakia, comprehensive projects took in the 1990s around 10 years while it has been reduced to seven-eight in recent years. In Poland, projects usually take four years but in addition, it often takes additional three years to get support from the necessary majority of the landowners to begin the process. In Slovenia, projects used to take around seven years, which has now been reduced to usually around five years. The lengthy projects are also costly at least compared to the simple and voluntary projects. CEE countries have many urgent problems to be addressed in relation to agricultural and rural development with usually limited public budgets and especially the non-EU member countries without access to EU co-financing of land consolidation programmes under the RDP will often not be able to afford to implement comprehensive land consolidation projects in a scale that really matters.

Another weakness of the compulsory model is the fear among the rural population in many countries that they may end up losing their land rights in land consolidation projects. In some countries, e.g. countries in the former Yugoslavia and Poland, land consolidation instruments are still discredited by negative experience in the past. In the CEE countries where state land was restituted or distributed to private owners within the last two decades, the rural population is often afraid to participate in a compulsory process of which they often don't know the outcome when they have to commit to participate. In these countries, the trust in government is often low. Hence, decision makers are often refraining from going into discussions on the sensitive land right issue. It can also be questioned whether land consolidation with an objective of agricultural development is so important for society that it may be necessary to threaten the land rights of the

land consolidation participants in case they are not accepting the elaborated re-allotment plan. At least, this is worth to consider.

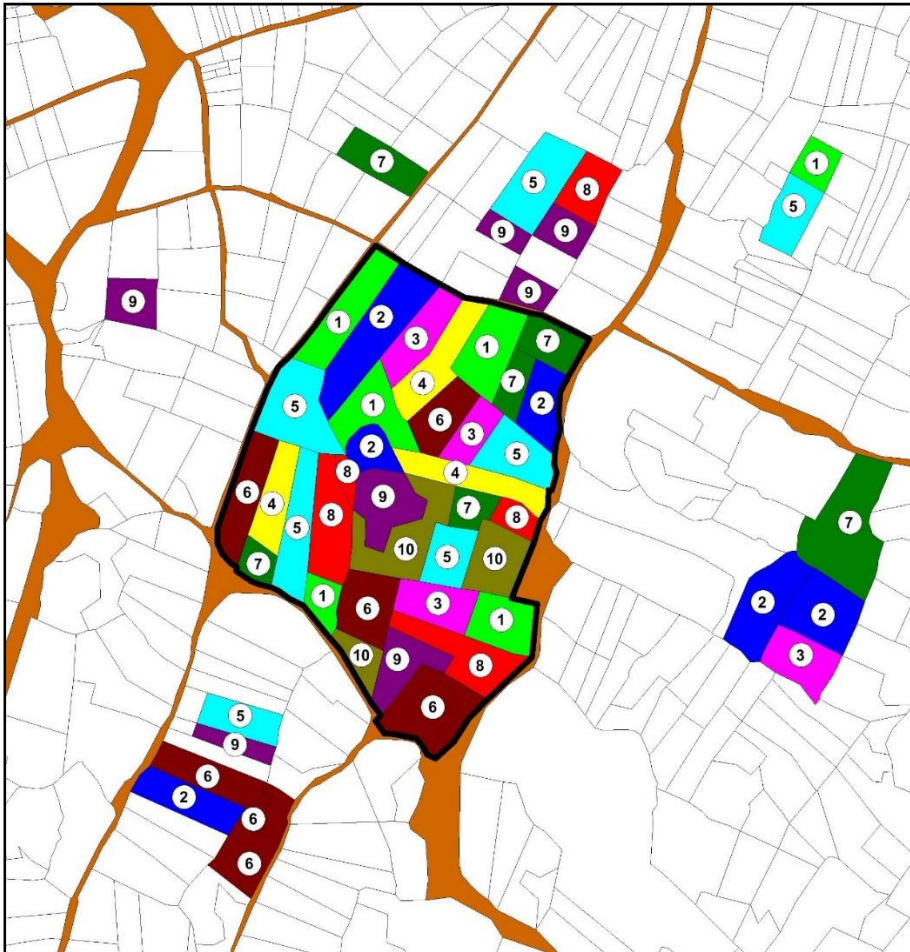


Figure 9.3: Fictive ownership before land consolidation project (Plan 1). For better illustration, the project area (with black frame) and also the number of involved landowners is much smaller than what will the usual situation. 10 (1-10) fictive owners are included with in total 54 parcels of which 35 are inside and 19 outside the project area.

Furthermore, in this model, all the land parcels in the project area participate in the consolidation while no parcels participate outside the project area. In a CEE context, landowners will often own land parcels not only in the project area but also in neighboring areas, which are not included in the project and the participants will then only partly have their fragmentation problems solved. It is either all or nothing. An obvious solution could be to increase the size of the project

area but then the land consolidation professionals may often end up with thousands of landowners, which are very difficult to handle in practice.

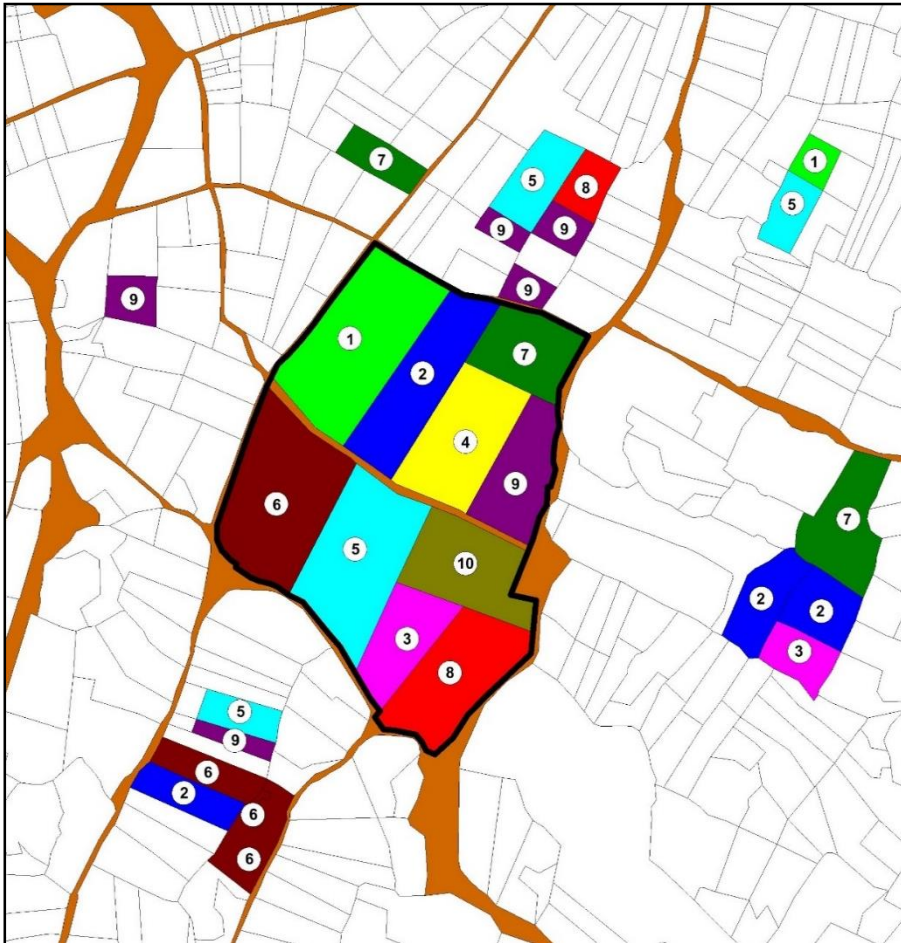


Figure 9.4: Fictive ownership map (Plan 2) after comprehensive and compulsory land consolidation project. Existing boundaries between parcels are “erased” and a completely new parcel layout designed with fewer, larger and better shaped parcels. Each owner has her / his land consolidated in one parcel of the same value as the parcels before the project (figure 9.3). A new field road is planned and constructed to give better access to parcels.

Finally, the comprehensive and compulsory model, as we have seen it practiced in the CEE programme-countries, is not facilitating the increase in agricultural holding and farm sizes, which in addition to reduction of land fragmentation also will be needed in order to develop economically viable farms. So only half of the problem is addressed.

Figure 9.3 and 9.4 illustrate the practical application of a *comprehensive and compulsory land consolidation model* in a CEE context. Figure 9.3 is a fictive map of landownership in and around the project area before the land consolidation project, while figure 9.4 is a fictive example of what could be the outcome of the project.

Simple and voluntary land consolidation is in Germany and the Netherlands usually applied with a limited number of participating landowners, i.e. up to 10-20.⁸⁴ⁱ The main strength of the model is that the re-allotment process is fast and relatively cheap. The model also allows that some landowners chose to sell some or all of their land parcels, while others purchase additional land. In this way, the model can facilitate a structural development towards larger holdings and farms.

Another strength is the voluntary approach itself. Participation in the project is an offer to the local stakeholders and they will only participate if they are convinced that they will have benefits from the project, e.g. be better off with fewer and larger parcels or use the opportunity to either sell land or purchase additional land. Finally, the model is flexible for local development objectives and needs and it may not be a big deal to initiate a project when a few landowners and farmers can see the benefits from a project.

However, also the simple and voluntary model has several limitations in a CEE context. First, the results in terms of reduction of fragmentation will all things being equal often be relatively limited through the simple voluntary model. The re-allotment plan is negotiated and build up as a “chain of transactions” where one agreement leads to the next, which again leads to the third. If many landowners decide not to participate, it is difficult to find good solutions for those wanting to participate. Solutions are often found among those landowners who beforehand have declared their interest in participating, while other landowners including landowners absent from the community are not being actively involved. In Central and Eastern Europe, there are examples of simple voluntary projects, e.g. in Lithuania and from pilots in Bulgaria and the FYR of Macedonia, where the re-allotment planning has been carried only with those who signed up for the project without actively seeking to involve other stakeholders. Sometimes, the re-allotment planning is not professionally facilitated but mainly left to the participants to clarify the opportunities among themselves. Those who initiate the projects are usually also those who benefit from the projects. In the ongoing private funded land consolidation projects in Bulgaria, large corporate farms and investors are purchasing agricultural land from small private landowners and

⁸⁴ⁱ Hartvigsen, M. (2015): *Experiences with land consolidation and land banking in Central and Eastern Europe after 1989*. FAO Land Tenure Working Paper 26, p. 10-15.

consolidate their holdings.⁸⁴² Furthermore, simple voluntary land consolidation is limited to re-parceling alone and not integrated with local needs for agricultural and rural development.

	Comprehensive and compulsory land consolidation:	Simple and voluntary land consolidation:
Strengths:	<ul style="list-style-type: none"> • Good results in terms of reduction of land ownership fragmentation • Allows for integration with local agricultural and rural development needs • Complete renewal of cadastre and land register 	<ul style="list-style-type: none"> • Fast process and fast results • Relatively little technical and institutional capacity and coordination between institutions needed for implementation • Low costs • Voluntary participation • Allows sale and purchase of land parcels • Flexible for local objectives and needs
Weaknesses:	<ul style="list-style-type: none"> • Lengthy process (5-8 years) and slow results • High costs • High level of technical and institutional capacity and coordination between institutions needed for implementation • May create uncertainty in terms of land rights because of little trust in government • Either all or nothing • Opportunity to increase holding and farm sizes not facilitated in CEE countries with programmes 	<ul style="list-style-type: none"> • Limited results in terms of reduction of fragmentation and increase in holding size • Only re-parceling • More benefits to stronger farms and investors than to small-scale family farms • Vulnerable to low land mobility • Hampered by existing land registration problems • Limited facilitation of re-allotment planning

Figure 9.5: Strengths and weaknesses of the classical European land consolidation models when applied in a CEE context.

⁸⁴² Hartvigsen, M. (2015): Experiences with land consolidation and land banking in Central and Eastern Europe after 1989. FAO Land Tenure Working Paper 26.

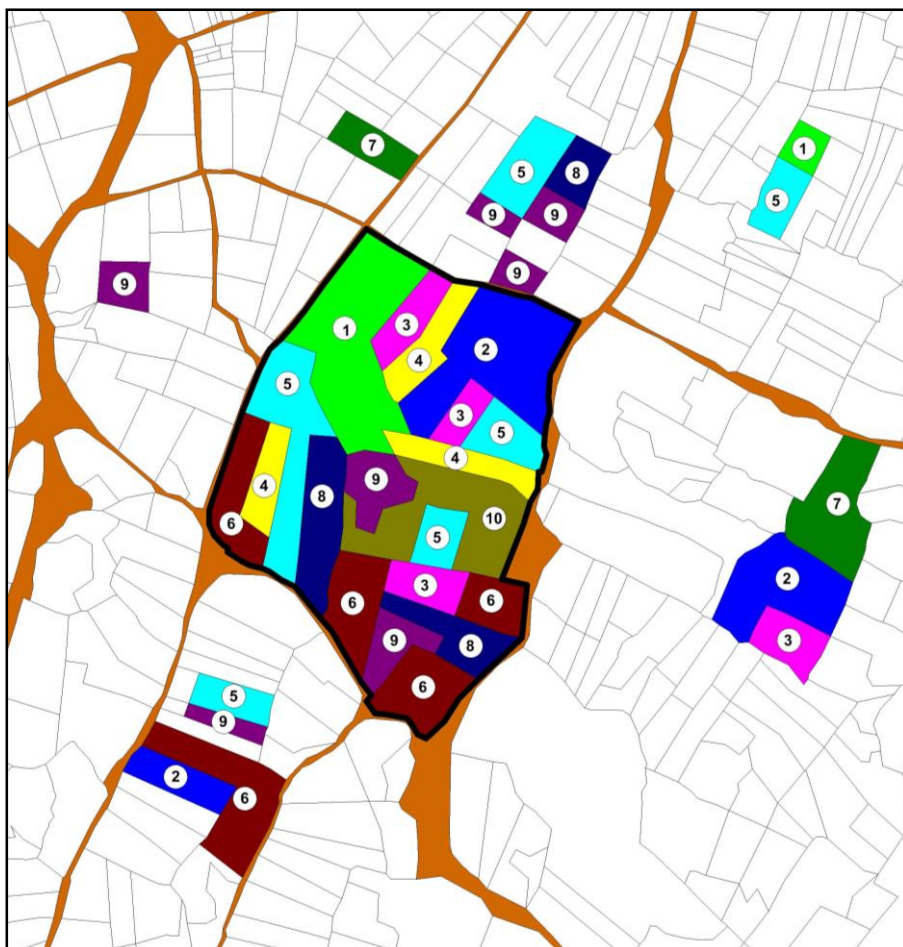


Figure 9.6: Fictive ownership map (Plan 2) after simple voluntary land consolidation project. Owner 7 sells all four parcels in project area. Owners 1, 2 and 10 exchange parcels and enlarge holding size, while owners 6 and 8 exchange and maintain the same area. Owners 3, 4, 5 and 9 decide not to participate.

Simple voluntary land consolidation projects are vulnerable to low land mobility in the project area. If all stakeholders interested in participating want to exchange with land of exactly the same value and very few want to sell and few are capable of buying, then voluntary re-allotment planning often becomes extremely difficult. Experiences from land consolidation pilot projects throughout the CEE region have often shown projects with low land mobility. The outcome of this model is also hampered by a variety of existing land registration problems, which are widespread in most CEE countries. This is especially the case, if the land consolidation projects are implemented following normal land transaction procedures without having specific legal framework for land consolidation to

ensure simplified transaction procedures. In figure 9.6 is displayed a fictive example of what could be the outcome of a simple voluntary project. Strengths and weaknesses of the two models in a CEE context are summarized in figure 9.5.

We can now conclude that both classical land consolidation models when applied in a CEE context have strengths but even more weaknesses. FAO has in its field projects in Armenia, Serbia, Albania and Bosnia and Herzegovina as well as in policy guidelines aimed at further developing the simple voluntary land consolidation towards a more comprehensive and integrated model where the re-allotment planning is integrated in a broader local rural development context. A similar concept has been applied in the World Bank funded pilots in Moldova. There is, however, the need to further develop a third land consolidation model more suitable for CEE than the two classical models discussed above. The aim of a third model is to optimize the re-allotment planning hopefully ensuring better results through a simplified and cost-effective procedure. In the following section, an outline for a third model for CEE – *integrated voluntary land consolidation* – is presented and discussed.

9.3.2 INTEGRATED VOLUNTARY LAND CONSOLIDATION – A THIRD MODEL

First, one model will not fit all. The situation in the CEE region in terms of land fragmentation, farm structures and needs for agricultural and rural development is far from homogenous. Thus, the following proposed outline and main content of a model must be adopted to local circumstances and tailor-made solutions must be developed in each country. It can also be foreseen that one country may choose to apply variants of the model depending on the specific situation, e.g. one variant for fertile arable land and another for mountainous areas where farming conditions are completely different but development needs just as big.

The model has two types of features fundamentally different from each other, those that are external to the re-allotment planning and those that are internal elements in improved re-allotment planning. The external features can also be seen as the framework in which the model is functioning. Here, an important element in the external part of the model is to integrate the re-allotment planning in a local rural development context drawing on the good experiences, e.g. from the Czech Republic and Slovakia and from the above mentioned FAO pilot projects where community development plans have been elaborated as part of the land consolidation pilot project. Most rural communities throughout CEE have as mentioned many more development needs than the structural problems caused by land fragmentation and small farm sizes. Hence, the need is bigger than what can be solved by land re-parceling alone. Community development plans should of course be coordinated with existing development plan for the community, e.g. at municipal level. If detailed local development plans already exist, it may not be necessary to elaborate new community development plans as part of the land

consolidation project. A participatory and community-led development approach can be achieved through active involvement of all local stakeholders and stakeholder groups. Conducting a series of community workshops will often be a good way to facilitate the process. Other elements can be focus group discussions depending on the local situation. Also the active involvement of the individual stakeholders, including the landowners and farmers, is important. In the FAO pilots, the aim has been to individually interview all identified landowners about their interest in and wish for the land consolidation project. These interviews are in addition an opportunity to discuss with the individual landowners their perception of needs for development, e.g. where parcels need access roads, need for renewal or new irrigation systems etc.

A tangible outcome of the community development planning can be a catalog of identified development projects, e.g. in priority order, with timeframe for implementation and with tentative budgets. Often, the land consolidation project will only have funding for the re-allotment planning and registration of agreed land transactions and not for local rural development needs such as roads, irrigation etc. Additional funding, often from the budgets of local or central government or from donor projects is necessary in an integrated model and coordination between different institutions at national, regional and local level is crucial. In practice, this is often difficult. The re-allotment planning can facilitate the implementation of the project catalog by creating a property framework for subsequent implementation of the identified local development priorities. If for example it has been planned to establish a common playing field in the land consolidation project area, an objective of the re-allotment planning could be to purchase the agricultural land from the current private owners and perhaps compensate them in land instead of money if this is what they wish.

Another external feature of the model can be to link to access to credit for farmers willing to increase their production through purchase of additional land in the land consolidation project. Experiences from land consolidation pilots in the region have shown that it is often difficult for such farmers to get access to credit at reasonable conditions, e.g. interest rates, because banks and credit institutions are often not accepting agricultural land as collateral. In some countries, micro credit schemes or savings- and credit associations exist, which the farmers in the land consolidation projects can be informed about. All things being equal, less fragmented and larger agricultural holdings with clear formal registration of ownership will have a higher value as collateral for future credits.

Now, we will look at the elements in the model, which are inside the re-allotment planning. As discussed above, a high participation rate is crucial in voluntary re-allotment planning because the options for good solutions are bigger with many participants. Therefore, thorough awareness raising about the project and its

expected benefits is important both at community meetings but also in direct communication with the individual stakeholders. First, it is necessary to identify all registered landowners in the project area like the fictive example in figure 9.3. Second, good experiences have been achieved by interviewing all available landowners in the project area about their interest in and wish for the re-allotment planning, e.g. if they are interested in selling, exchange or purchase of parcels and with which parcels. Usually, it will be a good idea to begin with the landowners and farmers who are being present in the community as the re-allotment plan in order to be successful will have to be build up around the interests of those able and willing to farm in the project area. Tracking down landowners absent from the community and conducting these individual interviews is time consuming for the project team but the only way to get into individual dialogue with the possible beneficiaries of the project. It is crucial to understand the incentives of each individual landowner in order to be able to offer the re-allotment solutions they will appreciate. After the individual interviews, the expected volume and outcome of the project can be assessed and the mobility of parcels illustrated at a land mobility map (figure 9.7).⁸⁴³ The election of a local committee of stakeholders at the first community workshop to represent the general interests of the local stakeholders can be an important intermediary between the individual stakeholders and the land consolidation professionals and e.g. participate in the valuation process in which the market price and relative values for exchange of parcels is established.

An important feature of the model is that participation of the landowners is voluntary. This is considered important, both in respect of the land rights of the owners in the project area and because it is reducing time and costs of the projects. Voluntary land consolidation is often perceived synonymously with simple voluntary land consolidation (discussed in section 9.3.1). There are, however, examples of voluntary land consolidation projects in CEE with many more participants. In the World Bank funded land consolidation pilot project in Bolduresti village in Moldova, 1,270 owners participated (71% of all owners) and in total 1,347 parcels were involved in the process which was implemented in only 18 months.⁸⁴⁴

⁸⁴³ Hartvigsen, M. (2014a): *Land Mobility in a Central and Eastern European Land Consolidation Context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014.

⁸⁴⁴ Hartvigsen, M., Gorgan, M. and Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012, 6-37.

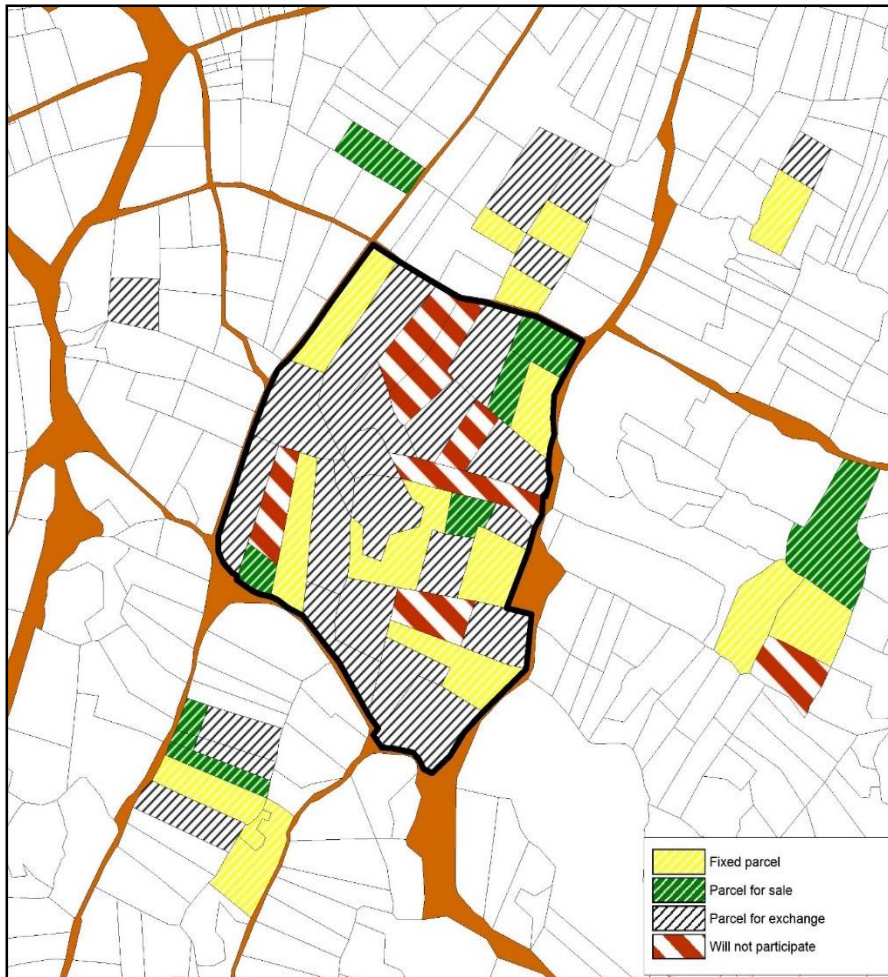


Figure 9.7: Land mobility map. Based on interviews with all available landowners, the land mobility is assessed: i) fixed parcels which the participants will not sell or exchange but usually consolidate around, ii) parcels for sale, iii) parcels which can be exchanged with other parcels in the owners main interest area and iv) parcels which will not participate.

The voluntary approach of cause means to respect those who decide not to participate even when the decision is not based on economically rational considerations as landowners often have many feelings involved for their land. If we go deeper into the re-allotment planning, the voluntary participation also means that the planners must respect that not all parcels of those interested in participating are mobile and available for the re-allotment. In practice, some of the parcels will be “fixed”, e.g. because they are close to the homestead of the owner, of specific value for his / her production or perhaps because of newly planted perennials on the parcel. Often, the owner will be interested in

consolidating the land around the fixed parcels and e.g. enlarge an existing orchard or vineyard on neighboring land received in the project. In this way, the fixed parcels guide the re-allotment planning instead of being an inconvenience. It may usually be a good idea together with the committee of stakeholders to divide the project area into a number of sub-areas with natural boundaries such as roads, water bodies or forest lines. For each sub-area, the planners assisted by the local committee discuss and decide on design goals for the re-allotment planning based on the stated interests of the individual landowners. The design goal for a certain area can be to consolidate and perhaps enlarge the land of specific landowners, e.g. around their fixed parcels, but it can also be to purchase the private land for public needs defined in the community development plan. The introduction of sub-areas also make the valuation process easier and more manageable.

Another feature of the model is to work with a two-level project area. The project area (figure 9.3), thus becomes the core project area and the surrounding areas become the secondary project area. Both classical models (section 9.3.1) usually only allow land transactions inside the (core) project area. By allowing also land transactions in surrounding areas, the re-allotment opportunities are significantly increased and it becomes easier possible to find attractive solutions also for those landowners who have only one or a few parcels in the core project area but their main interest area in the secondary area. By shifting their land out of the core area, they open for solutions for those landowners who have the core area as their main interest area. To better control the process, the planners can allow only targeted land transactions in the secondary area, which benefit the results in the core project area. The possible outcome of re-allotment planning under the integrated voluntary model is illustrated in figure 9.8. When comparing the possible outcome of the integrated voluntary land consolidation model in figure 9.8 with the outcome of the simple voluntary model illustrated in figure 9.6, it can be observed that the landowner participation rate is higher in the integrated voluntary model. This is to reflect that additional features are applied and the re-allotment planning optimized in the model illustrated in figure 9.8. In this way, the integrated voluntary model becomes more than just the simple voluntary model integrated with local rural development needs.

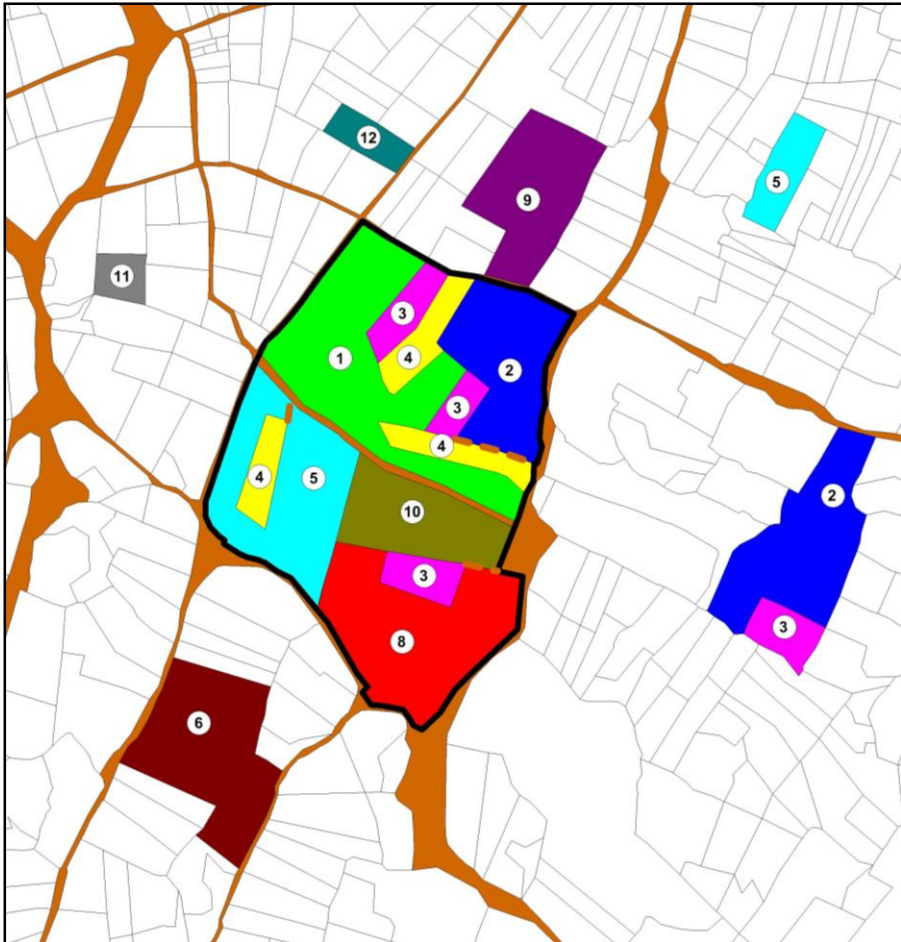


Figure 9.8: Fictive ownership map (Plan 2) after integrated voluntary land consolidation project. Owner 7 sells six parcels in the core and secondary project area. Owners 1, 2 and 8 exchange parcels and enlarge holding size, while owners 5, 6, 9 and 10 exchange and maintain the same size. Owners 3 and 4 decide not to participate. Targeted land transactions in the secondary project area including new owners 11 and 12. A new field road is planned and constructed to give better access to parcels. In addition, parcels belonging to owners 3 and 4 are allocated formal road access.

Voluntary re-allotment planning is difficult, as discussed in section 9.3.1, when the land mobility in the project area is low. This may also be a problem for *integrated voluntary land consolidation*. In regions and countries with low land mobility, it is strongly recommended to establish land banking instruments as add-on to the land consolidation instruments. As explained in section 9.2, the opportunities for land banking are in general good in CEE countries because most countries have large reserves of state agricultural land remaining after finalization of the land reform process from 1990 and onwards. In practice, the land bank can be a so-

called revolving fund, which with available start up capital is authorized on behalf of the state to purchase agricultural land from private owners at normal market conditions in a period of one or two years before the land consolidation project is launched. For this to work, the projects must be planned in advance and again strong coordination between the involved actors is crucial, e.g. between land consolidation agency and land bank. Until the re-allotment planning is finalized, the land is temporary held by the land bank and can be leased out to private owners on short term agreements. When the re-allotment process is initiated, the local stakeholders will know that the land purchased by the land bank is available and this will provide more opportunities for a good outcome of the project. The land bank sells the land again in the land consolidation project and the revenue comes back into the revolving land bank and can be used for the next project. To work in practice, the approval procedures for the land banks purchase and sale of land must be fast and flexible and the institution must be able to act in the local land market in the same way as private actors. Thus, the director of the land bank must be authorized to sign agreements on behalf of the state. When land banks are established, it is important to include safeguards against misuse, e.g. corruption. Furthermore, it is crucial that the land bank holds or purchases agricultural land, which is attractive for the potential participants in the land consolidation project, e.g. land of good soil quality and close to the village. If not, land banking will not have the intended positive effect.

Box 9.2: Main Characteristics of *Integrated Voluntary Land Consolidation*

The main characteristics of a third land consolidation model for Central and Eastern Europe are:

1. *Voluntary participation of the landowners in the project area.*
2. *Land professionals facilitate the re-allotment planning.*
3. *The active involvement of landowners and other stakeholders is encouraged in a participatory process.*
4. *The re-allotment planning includes land transactions in surrounding when they benefit the outcome in the core project area.*
5. *Land banking is applied when the land mobility is low.*
6. *The re-allotment planning is integrated in a local rural development context through the elaboration and implementation of community development plans.*

If for political reasons, it is not possible to establish a formal land bank, it is important that the existing state land in the two-level project area is available for the re-allotment planning at least for exchange but preferably for sale. There are very good examples of the active use of state land in land consolidation pilots in countries such as Armenia, Lithuania, Bosnia and Herzegovina even without formal land banks established. The main characteristics of the integrated voluntary land consolidation model are summarized in box 9.2.

9.4 CONCLUSIONS

The development of land consolidation instruments are ongoing in many CEE countries. Seven countries already have national land consolidation programmes and additional four – six countries can be expected to have operational programmes within the next four – five years if the preparation continues to go well. Land banking instruments have on the other hand largely failed so far in CEE at least as tools to support land consolidation programmes and projects.

We have found that the two classical European land consolidation models, *comprehensive compulsory land consolidation* and *simple voluntary land consolidation* both have several shortcomings when applied in a CEE context and we have argued for the need of a third land consolidation model - *integrated voluntary land consolidation* - more suitable for the CEE context.

In this model, the re-allotment planning is conducted integrated with local community development planning as rural communities in CEE usually will have many more development needs than the re-parceling. The re-allotment process is optimized through various features such as working with a core and a secondary project area, the use of fixed parcels and the active involvement and motivation of all involved landowners. When land mobility is low, it is recommended to establish land banks to support the voluntary land consolidation instruments. As discussed, the approach of the model is voluntary. This of course means that the structural problems in the project area are not solved for those landowners who refrain from participating. The optimized re-allotment planning applied in the model as well as the use of a land bank is, however, intended to assist in increasing the number of participants and thereby increase the amount of structural problems that are addressed in a project.

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REFERENCES

- FAO (2003): *The design of land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Studies 6. Rome.
- FAO (2004): *Operations manual for land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Manuals no. 1. Rome.
- FAO (2008): *Opportunities to mainstream land consolidation in rural development programmes of the European Union*. FAO Land Tenure Policy Series 2. Rome.
- FAO (2012): *Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security*. Rome.
- Hartvigsen, M. (2006): *Land Consolidation in Central and Eastern European Countries*. Conference paper for FIG Congress, Munich 2006. Weblink: https://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ed=oCCkQFjAA&url=https%3A%2F%2Fwww.fig.net%2Fpub%2Ffig2006%2Fpapers%2Fts71%2Fts71_04_hartvigsen_0882.pdf&ei=nmL7U5yBGJjMyAPNz4LYBQ&usg=AFQjCNFxtUw6OopX7HxZ8HgpFQh70HPVwg&sig2=N_m5qvngGQvVEJ6R3-O1ng
- Hartvigsen, M., Gorgan, M. and Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012, 6-37. Weblink: <http://www.fao.org/nr/tenure/land-tenure-journal/index.php/LTJ/article/view/59>
- Hartvigsen, M., (2013a). *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24. Web link: <http://www.fao.org/docrep/017/aq097e/aq097e.pdf>
- Hartvigsen, M. (2013b). *Land Reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), 330-341. Weblink: <http://www.sciencedirect.com/science/article/pii/S026483771300166X>
- Hartvigsen, M. (2014a): *Land Mobility in a Central and Eastern European Land Consolidation Context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014. Weblink: <http://ojs.tsv.fi/index.php/njs/article/view/41460>
- Hartvigsen, M. (2014b): *Land consolidation and land banking in Denmark – tradition, multi-functionality and perspectives*. Danish Journal of Geoinformatics and Land Management, Year 122, Vol. 47, 1-7 (2014) Weblink: <http://www.journals.aau.dk/index.php/tka/article/view/987>
- Hartvigsen, M. (2015): *Experiences with land consolidation and land banking in Central and Eastern Europe after 1989*. FAO Land Tenure Working Paper 26. Web link: <http://www.fao.org/nr/tenure/infores/ltpapers/en/>
- Kaulich, K. (2013): *Importance and Prospect of Land Consolidation in the Czech Republic*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013.

- Kozłowski, J. and Zadura, A. (2007): *Land consolidation and exchange works in Poland: statute, experiences and priorities*. Paper presented at FAO regional land consolidation workshop in Prague.
- Thomas, J. (2006). *Attempt on Systematization of Land Consolidation Approaches in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2006.
- Van Dijk, T. (2003). *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon.
- Van Dijk, T. and Kopeva, D. (2004): *Land banking and Central Europe: future relevance, current initiatives, Western European past experience*. Land Use Policy 23 (2006), 286-301.
- Van Holst, F., Eberlin, R. and Onega Lopez, F. (2014): *LANDNET and Land Market Issues in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2014.

CHAPTER 10

10 CONCLUSIONS AND PERSPECTIVES

We will in this final chapter of the thesis wrap-up the research project and provide the final conclusions and perspectives on land reform and land consolidation in Central and Eastern Europe after 1989.

10.1 AIM OF THE RESEARCH PROJECT

It has been the aim of the PhD project to study land reform and the introduction of land consolidation and land banking instruments in Central and Eastern Europe after the beginning of transition in 1989. More specific, it has been the aim of the study to provide answers to these seven research questions:

1. *What is the linkage between the chosen land reform approach and the outcome in the form of farm structure and land fragmentation?*
2. *Under which conditions is land fragmentation a barrier for development of the rural land market and the agricultural and rural sector in general?*
3. *How should the land reform approach be designed if the objective is to dismantle the large-scale corporate farms and build individual commercial farms without creating excessive land fragmentation?*
4. *What have been the driving factors behind the introduction of land consolidation and land banking instruments in the countries in Central and Eastern Europe?*
5. *What have been the key approaches and elements in the land consolidation and land banking instruments introduced in the region?*
6. *What are the experiences and results with the introduction of land consolidation and land banking in the region in relation to improvement of agricultural structures and the facilitation of rural development?*
7. *What is the main content of a model for land consolidation and land banking instruments suitable for Central and Eastern Europe based on previous experiences in the region and international best practice?*

We will in the following summarize the answers, which have been found to the research questions in the previous chapters 3-9.

10.2 LAND REFORM AND ITS OUTCOME

25 years have passed since the beginning of transition in 1989 and remarkable changes have happened in most of the CEE countries. Land reforms and restructuring of the large-scale socialist farms were in all CEE countries a key part of the overall agrarian reforms. The first three research questions relate to these land reforms and their outcome in form of farm structures and land fragmentation.

In Chapter 5, the land reform approaches, which have been applied in the 25 study countries, were reviewed and the current farm structures and situation with land fragmentation was analyzed one country at the time. Building directly on Chapter 5, a complete overview on both the applied land reform approaches and the current farm structures and land fragmentation was provided in Chapter 6.

The study found that two fundamentally different overall approaches to land reform and land privatization have been the *restitution* of land rights to former owners who lost their rights during the collectivization process after the Second World War and the *distribution* of land rights to the rural population. All countries have balanced considerations on equity and historical justice and the outcome has varied depending on local historical preconditions and the political majorities. The study has identified six applied land reform approaches. Four of these are related to restitution; i) *restitution to former owners*, ii) *withdrawal of formally private land from collective farms*, iii) *compensation* and iv) *privatization through sale of state land*. Two approaches are related to distribution; v) *distribution in physical parcels* and vi) *distribution in land shares*. Some of the approaches were related to each other and applied in combination. In total, 16 of the 25 study countries have applied one or more of the restitution approaches as a main land reform approach, while 7 countries have distributed land to the rural population as a main approach (figure 6.2 and 6.3). Finally, two countries, Bosnia and Herzegovina and Belarus, have not yet in reality started land reform.

The classical theory on land fragmentation and the few available publications on land fragmentation in a CEE context were studied (section 6.4). With the conceptual framework in place, it was found that land reforms and land privatization in a majority of the study countries after 1989 have completely changed the farm structures that existed during the socialist era, while in other countries they remain the same. The study showed that in the discussion of land fragmentation and its impact, it is important to distinguish between the fragmentation of land ownership and the fragmentation of land use. The ownership of agricultural land has as a result of the recent land reforms become medium or highly fragmented in all CEE countries except in Belarus, Ukraine and Russia. In *Poland* and in the seven countries in former Yugoslavia, ownership of

agricultural land is highly fragmented, but this is due to the pre-WWII farm structures and not the outcome of recent land reforms. When it comes to land use fragmentation, the situation is much more nuanced. In all seven countries, which distributed agricultural land in physical parcels as a main land reform approach, the result has been excessive land use fragmentation. In these countries there is a big overlap between ownership of agricultural land and land use as most of the land is farmed by the owners in small-scale family farms and leasing of land is not common. A high level of land use fragmentation is, with the exceptions of Romania and Bulgaria, not characteristic in countries where restitution and withdrawal from collective farms were the main land reform approaches. When summarizing the answer of ***the first research question***, it is found that there are significant tendencies but not a completely clear coherence between the choice of land reform approach in the CEE countries and the current level of land fragmentation. However, the seven countries, where the choice was to distribute state agricultural land to the rural population in physical parcels, today all have farm structures plagued by excessive fragmentation both of land ownership and of land use. In the countries where land was restituted to the former owners, the situation with land use fragmentation is more blurry. In countries where the rural population has few alternatives to farming, such as Romania and Bulgaria, the land use is fragmented in the same way as in the countries where state land was distributed in physical parcels.

The second research question was answered as well in Chapter 5 and 6. When discussing the practical impact from land fragmentation on the utilization of agricultural land in the 25 study countries, the study has revealed that it is important to distinguish between fragmentation of ownership and fragmentation of land use. In countries such as Albania, Romania, Bulgaria, Moldova, the seven ex-Yugoslavia countries and the three Transcaucasus countries, where average sizes of arable agricultural parcels are around 0.3 ha and agricultural holdings often in a size of 1-3 ha, land fragmentation is an important structural problem for both the individual farmers, the rural communities and for the countries. The small-scale family farms are not competitive and the production is mainly used for self-consumption in the households or the land is even abandoned. In other countries such as in the *Czech Republic* and *Slovakia* with extreme fragmentation of ownership of agricultural land, land fragmentation has limited practical impact on the utilization of agricultural land when the land use fragmentation is low.

The third research question about the design of a land reform approach, which is not leading to excessive fragmentation, was answered in section 6.7. We have seen that physical distribution of state owned agricultural land to the rural population is an effective way of dismantling the large-scale corporate farms. However, we have also seen that this has led to excessive fragmentation of both ownership and land use. Based on the results of the study, the recommendation

would be to design the land reform with a combination of distribution in physical parcels and compensation in state vouchers, bonds or money. Before land distribution plans are prepared, each eligible person should be given the right to decide whether to receive land in physical parcels or a compensation. Those who have no interest in or skills for farming could choose compensation. Those who on the other side have an interest in farming and in building up commercial family farms would have the opportunity to purchase additional land already while the land distribution plan is being prepared and agreements of selling and buying of land rights before they are distributed in physical parcels could be facilitated as part of the local land reform process. The system would be financially neutral to the state if the buyers of additional land pay the same market price as given in compensation to those who decline land. If there will be more supply of additional land than demand, a state land bank can be introduced and temporarily take over the land and lease it out to private farmers until the land market has further developed. This could be a short-cut to building up farm structures dominated by commercial family farms in CEE countries such as Belarus and the Russian Federation. Such approach could also be considered for future land reforms in former Soviet countries in Central Asia.

10.3 INTRODUCTION OF LAND CONSOLIDATION IN CENTRAL AND EASTERN EUROPE

Governments in the Central and Eastern European region have mostly recognized the need to address the structural problems in agriculture with land fragmentation and small farm sizes. Land management instruments such as land consolidation and land banking have been introduced. Chapter 7 systematically reviews and analyses the experiences of introducing land consolidation and land banking instruments in the 25 study countries and thus provides a basis for answering research questions 4, 5 and 6.

Land fragmentation and land consolidation are closely related phenomena and can be seen as “the opposite sides of the same coin” where land fragmentation can represent a problem and land consolidation can be a solution. As discussed in section 10.2, it is necessary to distinguish between fragmentation of land ownership and of land use. In the same way, land consolidation is in all countries applied in the intersection between land ownership and land use. This is illustrated in figure 10.1.

The study reported in Chapter 7 found that seven of the CEE countries have introduced land consolidation instruments and already have operational national land consolidation programmes. 13 countries have introduced land consolidation instruments, often through land consolidation pilots with international technical assistance, but have not yet an operational programme. Of these, five countries,

Latvia, Croatia, FYR Macedonia, Bulgaria and Kosovo are coming close and may be to have operational programmes within the next few years. Finally, five countries have so far had very little or no experience with land consolidation. Status of the introduction of land consolidation in Central and Eastern Europe is illustrated in figure 10.2.

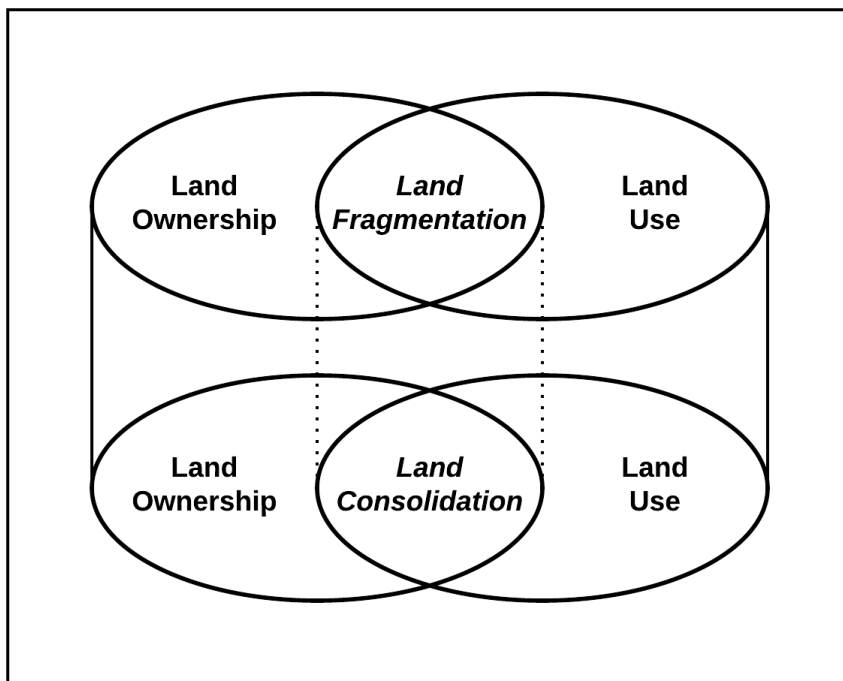


Figure 10.1: Land fragmentation and land consolidation in-between land ownership and land use.

The fourth research question is about the driving factors behind the introduction of land consolidation and land banking instruments in the region. The study found that the driving factors behind introduction of land consolidation in the seven countries with ongoing programme can be divided into two groups (section 7.4.8). In Poland, Slovenia, Lithuania and Serbia, land consolidation was mainly introduced as an instrument to address the structural problems in agriculture with fragmentation of both land ownership and land use and small average sizes of agricultural holdings and farms, and thus as a tool to improve productivity and competitiveness of farms. In the Czech Republic, Slovakia and also to some extent in Eastern Germany, land consolidation has not been focused on improving the land use conditions but instead has focused more on addressing the fragmentation of land ownership integrated with the land reform process and the building up of land administration systems. In these three countries, an

additional driving factor has been the wish to integrate land consolidation with local agricultural and rural development needs such as new field roads and access to parcels left without road access after land reform. In Poland and Slovenia (then part of Yugoslavia), the collectivization process after the Second World War had largely failed and most agricultural land remained in private ownership and land use by small-scale family farms. Poland adopted the first land consolidation law already in 1923, while the Socialist Republic of Slovenia adopted a law in 1957.



Figure 10.2: Status of the introduction of land consolidation in Central and Eastern Europe.

In the 13 countries where land consolidation instruments have been introduced but not yet with an operational programme, the driving factors have mainly been land fragmentation and small farm and holdings sizes and the recognition of the importance of these structural problems in agriculture among decision makers (section 7.5.14). The integration of land consolidation with local rural

development needs has only been a secondary driving factor in these countries. This is perhaps not a surprise when comparing with the development of land consolidation instruments in most Western European countries. Here, land consolidation was during the decades after the Second World War mainly used to address structural problems in agriculture (land fragmentation and sometimes small farm sizes) until the 1970s and 1980s when focus shifted towards including measures such as nature restoration, infrastructure and in countries such as Germany and the Netherlands integrated rural development.

The fifth research question is about the key approaches and elements in the land consolidation and land banking instruments introduced in the region and the sixth is about experiences and results with the introduction of land consolidation and land banking in the region in relation to improvement of agricultural structures and the facilitation of rural development. These questions and their answers are closely related. Six of the seven CEE countries with ongoing land consolidation programmes, Poland, Slovenia, Czech Republic, Slovakia, Serbia and Eastern Germany, apply land consolidation in a compulsory approach where the projects are approved administratively when the majority of the landowners in the project area accept the project. In Eastern Germany simple voluntary projects are implemented in addition to the compulsory projects. Lithuania is the only of the seven countries with ongoing land consolidation programmes where land consolidation is applied only in a voluntary approach. In the 13 countries where land consolidation was introduced but not yet with an operational programme, the first projects were pilots with a voluntary approach except in Estonia, where a law with a compulsory approach was adopted in 1995 before pilots were initiated in 1998. In Macedonia, where a land consolidation law was adopted in late 2013, land consolidation is to be implemented in both a compulsory and a voluntary approach. The other four countries close to having a programme (figure 10.2) are heading for a completely voluntary approach. Conclusions on the introduction of land banking in CEE are provided in section 10.4.

The study has revealed that the more specific objectives of implementing land consolidation in the seven programme countries depend very much on the land fragmentation situation in the country and hence confirm the close relationship between land fragmentation and land consolidation illustrated in figure 10.1. In Poland, Slovenia, Lithuania and Serbia, where the land use fragmentation is relatively high, a main focus of land consolidation instruments has been to reduce land use fragmentation through a reduction of land ownership fragmentation and hence increase productivity and competitiveness of the participating farms. In the Czech Republic and Slovakia on the other hand, where fragmentation of land ownership is high while the fragmentation of land use is low, a main focus of land consolidation instruments has been on reducing ownership fragmentation with

surveying and renewing of the cadastre and land register (and in the 1990s on the restitution of land to former owners). In these countries, land consolidation has less emphasis on increasing productivity through more efficient land use. In Eastern Germany, the focus has been somewhere in-between the two groups. In all of the CEE countries on the way to an operational land consolidation programme, a main focus is on reduction of land use fragmentation and increase of productivity and competitiveness of the participating farms.

In most CEE countries, structural problems in agriculture are caused by both land fragmentation and small agricultural holding sizes. In Chapter 7, we found that the six of the seven programme countries, where land consolidation is implemented in a compulsory approach, the participants in principle receive land of the same value as they join the project with. The outcome of the projects is consolidation of the parcels for each owner without changing the size. Hence, the potential to use land consolidation instruments to facilitate the necessary structural development (enlargement) of agricultural holding and farms is not utilized.

As discussed in the delimitation of the study of the introduction of land consolidation instruments in section 7.2, it has not been within the scope to provide a detailed evaluation of the outcome of the land consolidation efforts in Central and Eastern Europe during the past 25 years in terms of increased productivity of farms that participated in land consolidation projects.

International technical assistance from more than 50 donor-funded projects have supported the introduction of land consolidation instruments in the CEE region from the middle of the 1990s and onwards and has paved the way and we can conclude that the introduction of land consolidation instruments are well on the way in the region. However, it is a completely different story with the introduction of land banking.

10.4 THE FAILURE OF LAND BANKING IN CENTRAL AND EASTERN EUROPE

The second part of research questions 5 and 6 are about the experiences with introduction of land banking instruments in the CEE region. In Chapter 8, case studies of the land mobility in recent land consolidation pilot projects in Moldova, Albania and Bosnia-Herzegovina showed that low land mobility will often hamper the implementation of land consolidation projects, especially in a voluntary approach like most countries in CEE are preparing for. Land banking is in many Western European countries such as Germany, the Netherlands and Denmark an important instrument to increase land mobility in land consolidation projects (section 7.3.2). The study of the introduction of land consolidation and

land banking reported in Chapter 7 documented that land banking has so far largely failed in Central and Eastern Europe at least as a tool to support land consolidation instruments by making state land available for the re-allotment process and hence increase land mobility. This is remarkable because many countries in the region have a large stock of state land remaining after the finalization of land reform, which represents a unique possibility for improving farm structures through land banking. The failure of land banking is first and foremost a failure in the overall land policy in the countries and at the same time a lack of coordination between land consolidation agencies and agencies managing the state agricultural land. Several international workshops on land banking in a CEE context have been organized over the last decade. However, there is still a strong need for policy recommendations on land banking in support of land consolidation instruments and for gaining field experiences with the combination of land consolidation and land banking in the context of Central and Eastern Europe.

10.5 THE FUTURE OF LAND CONSOLIDATION AND LAND BANKING IN CENTRAL AND EASTERN EUROPE

The seventh and final research question is about developing a land consolidation model suitable for Central and Eastern Europe. In Chapter 9, the suitability of the two classical European land consolidation models; *comprehensive and compulsory land consolidation* and *simple and voluntary land consolidation* were discussed in a CEE context. Both models were declined as fully suitable for the region and a new third model, *integrated voluntary land consolidation* was presented and discussed. The model is building on recent experiences of mainly FAO and World Bank land consolidation pilots in the region and aims at combining the strengths of the two classical models. A main feature of the model is to integrate the re-allotment planning in a local rural development context because the development needs in the project communities are usually much bigger than what can be solved by land re-parceling alone (section 9.3.2). It is proposed, where appropriate, to link to improved access to credit for farmers willing to purchase additional land and develop their business. Furthermore, the model includes features to strengthen the re-allotment planning. An important feature of the model is that participation of the landowners is voluntary. First, it is crucial to involve all landowners in the project area, also those who may be absent from the community and motivate them to participate through individual interviews and negotiations. It is crucial to understand the incentives of each individual landowner in order to be able to offer the re-allotment solutions they will appreciate. Second, the model works with “fixed” parcels, i.e. parcels which the owner will not sell or exchange but often consolidate other parcels around. Third, the model works with a two-level project area where land transactions outside the core project area are included when it can benefit the outcome of the re-allotment planning in the core area. This will make it easier to find good

solutions for landowners with their main area of interest outside the core project area, which then increases land mobility and can lead to better results in the core project area as well. Finally, it is proposed, where the land mobility is low, to supplement land consolidation instruments with the support of a land bank instrument. The proposed outline and main content of the model must be adopted to local circumstances and tailor-made solutions must be developed in each country.

The research project on land reform and land consolidation in Central and Eastern Europe has identified a number of adjacent topics where further research is desirable and needed. So far, little research has been conducted on the relationship between land consolidation and land banking instruments and development of rural land market in the CEE countries. This study has demonstrated that land consolidation can support rural land market development, e.g. where land ownership is so fragmented that no one is interested in purchasing the land and develop farming. This study has also revealed the need for a comprehensive study on the outcome of land consolidation in CEE in terms of increased productivity and competitiveness of the participating agricultural holdings and farms. The outcome of such research would throughout the region be important in order to raise awareness on the possible benefits of land consolidation both in relation to farmers, their organizations, rural communities as well as decision makers in the countries. Hopefully, future research on these topics will be able to benefit from the outcome of this study.

We have seen that international technical assistance has played an important role in building up land consolidation programmes in the CEE countries. Currently, the focus of the technical assistance projects provided through international projects funded by FAO, the World Bank, EU and bilateral donors is shifting from the first introduction of land consolidation, usually through pilots, to support preparation of national programmes. Ongoing international projects in Serbia and Macedonia are examples of this and the tendency will most likely be amplified over the next years. Hopefully, these future technical assistance projects will include land banking components where appropriate, which can contribute to finally achieving good examples of land banking supporting land consolidation instruments also in a Central and Eastern European context.

BIBLIOGRAPHY

- ACE Project (1999): *The Development of Land Markets in Central and Eastern Europe – Final Report*.
- ACSA. (2010): *Agricultural Land Re-Parceling Project in 40 villages. Activity Report, 7 May 2009 – 30 June 2010*.
- ACSA (2010): *Agricultural Land Re-Parceling Project in 40 villages. Activity Report, 1 October 2010 – 31 December 2010*.
- Adamicic, J. (2012): *Restitution of Property to non-Croatian Citizens – Possible at last?*
- Agrex (2011): *Impact Assessment of the Land Re-Parcelling Pilot Project in 6 Villages (Moldova)*. Rural Investment and Services Project II. World Bank.
- Albanian Ministry of Agriculture, Food and Consumer Protection (2011): *Statistical Yearbook 2011*.
- ARCOTRASS (2006a): *Croatia – Country report*. Funded by the European Commission.
- ARCOTRASS (2006b): *Kosovo – Country report*. Funded by the European Commission.
- ARD Inc. (2006): *Environmental and Economic impact assessment of land privatization in Eastern Europe and Eurasia – National report Bulgaria*. Prepared for USAID.
- Arka News Agency (2011): *Armenian government approves farm consolidation concept*. Weblink: <http://arka.am/en/news/economy/28894/> (visited 27 September 2014).
- ARGE Landentwicklung (2012): *Guidelines for Rural Development*. Prepared by Bund – Länder – Task Force for Sustainable Rural Development.
- Augutiene, J. (2014): *Lithuanian Experiences with a National Land Consolidation Program 2005-2013*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.
- Beckmann, V. and Hagedorn, K. (1997): *Decollectivisation and privatisation policies and resulting structural changes of agriculture in Eastern Germany*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Bentley, J.W. (1987): *Economic and Ecological Approaches to Land Fragmentation: In Defense of A Much-Maligned Phenomenon*. Annual Review of Anthropology, Vol. 16, 31-67.
- Bilak, D., Kushniruk, N., Zemskova, Y. (2012): *Ukraine: Extension of Agricultural Land Moratorium*. Article written for Law-Now, CMS Cameron McKenna's free online information service.
- Binns, B. (1950): *The Consolidation of Fragmented Agricultural Holdings*. FAO.

- Bjerre, T.K. (2010): *Skovrejsningsprojektet – powerpoint presentation* (in Danish) (The Afforestation Project – powerpoint presentation).
- Blenesi-Dima, A. and Rusu, M. (2006): *Farmland consolidation: Recent developments in Romania*. Workshop paper FAO Land Consolidation workshop. Prague May 2006.
- Bloch, P. (1998): *Picking up the pieces – consolidation of Albania’s radical land reform*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*. Routledge.
- Boe, P. (1965): *Arronderingsproblemer i landbruget* (in Danish) (Fragmentation problems in agriculture). Tidsskrift for Landøkonomi, nr. 9, November 1965.
- Bojnec, S. and Swinnen, J. (1997): *Agricultural privatisation and farm restructuring in Slovenia*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Botnarenco, I. (2009): *Consolidarea terenurilor agricole in Moldova (teorie, metode, practica)*.
- Bromley J. and Bromley D. (2012): *Looking East: Reclaiming land and legacy in the former GDR*. IAMO.
- Budanko-Panavic, A. and Medic, Z. (2005): *The first wave of agricultural reform in Croatia*. Paper for FAO regional land consolidation workshop in Prague.
- Budanko-Panavic, A. and Pupacic, M. (2006): *Land consolidation in Croatia*. Paper for FAO regional land consolidation workshop in Prague.
- Bukvic, J., Blazevic, V. and Proleta, D. (2013): *Ravno Land Consolidation Pilot Project – Baseline Report (Bosnia and Herzegovina)*. Unpublished project document. FAO.
- BVVG (2004): *Institutional, organizational and legal framework for the lease and sale of state owned agricultural land in the Republic of Lithuania – Final Report*. EU Twinning Light Project.
- Cartwright, A. (2014): *None of Us Could Have Been Against Consolidation in Principle: A Short History of Market and Policy Failure in Central Eastern Europe*. Book chapter in Dawson, A. et al. (ed.): *Negotiating Territoriality: Spatial Dialogues Between State and Tradition*. Routledge Studies in Anthropology, 65-77.
- Cashin, S.M, and McGrath, G. (2005): *Establishing a modern cadastral system within a transition country: Consequences for the Republic of Moldova*. Land Use Policy 23 (2006), 629-642.
- Chluba, K. and Schmidt-Kallert, E. (2001): *Strategy for Land Consolidation and Improved Land Management in Armenia – Pre-Feasibility Study*. FAO.
- Ciaian, P., Kancs, A., Swinnen, J., van Herck, K., Vranken, L. (2012): *Sales Market Regulations for Agricultural Land in the EU Member States and Candidate Countries*. Factor Markets Working Paper no. 14.

- Cihal, L. (2006): *Remarks on the Land Consolidation in the Czech Republic*. Paper for FAO Prague land consolidation workshop.
- Cimpoies, D., Muravski, A., Racul, A. (2008): *Structural changes in Moldovan agriculture: problems and perspectives*.
- Cimpoies, D., Lerman, Z., Racul, A. (2009): *The economics of land consolidation in family farms in Moldova*.
- Consulting and Credit in Agriculture (CCA) (2003): *Agricultural Land Market in Moldova – Baseline Study*.
- Croatian Ministry of Agriculture, (2009): *Croatian Agriculture (information brochure)*.
- Csaki, C. and Lerman Z., (1998): *Land reform and farm restructuring in Hungary during the 1990s*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*.
- Csaki, C. & Lerman, Z. (2001): *Land reform and farm restructuring in Moldova: A real breakthrough?* Discussion Paper, Hebrew University of Jerusalem.
- Cunga, A. and Swinnen J. (1997): *Agricultural privatization, land reform and farm restructuring in Albania*. In Swinnen, J. et al. (edt.): *Agricultural Privatisation, land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate.
- Consulting and Credit in Agriculture (CCA) (2003): *Agricultural Land Market in Moldova – Baseline Study*.
- Cwiok, T. (2010): *There are many reasons why Poland is not likely to pass an act to restore property to prewar owners or their heirs*. American Investor Magazine, 18 June 2010.
- Dale, P & Baldwin, R, (2000): *Lessons Learnt from Emerging Land Markets in Central and Eastern Europe*. Conference paper from FIG Working Week, Prague 2000.
- Damgaard, A. and Foged, P. (2006): *Vilsted Sø – De gjorde det muligt* (in Danish) (Vilsted Lake – They made it possible). Aalborg Universitetsforlag.
- Danish Ministry of Food, Agriculture and Fisheries (1999): *Brief report on Pilot project in land consolidation (Latvia) – Phase 2*.
- Danish Ministry of Food, Agriculture and Fisheries (2002): *Land Exchange project Gauja National Park Latvia – Completion Report*.
- Daugaliene, V.: (2004): *Preparation for Land Consolidation in Lithuania*. In Modern Land Consolidation - Proceedings of a Symposium held by FIG Commission 7 on 10 and 11 September 2004 in Volvic, France. FIG.
- Daugaliene, V.: (2007): *Legal framework of land management in Lithuania after 1990*. Conference paper for UNECE WPLA workshop in Munich, May 2007.

- Daugaliene, V. and Leimontaite, G. (2008): *Land consolidation and its nearest future in Lithuania*. Paper for FAO regional land consolidation workshop in Prague.
- Davidova, S., Buckwell, A., Kopeva, D. (1997): *Bulgaria: economic and politics of post-reform farm structures*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Deininger, K., Savastano, S., Carletto, C. (2012): *Land Fragmentation, Cropland Abandonment, and Land Market Operation in Albania*. The World Bank.
- Demetriou, D., Stillwell, J., See, L. (2013): *A new methodology for measuring land fragmentation*. *Computers, Environment and Urban Systems* 39, 71-80.
- Dells, K. (2008): *Management and Privatization of State-Owned Agricultural Land – Case Studies from Eastern Germany and Ukraine*. Conference paper for FIG/FAO/CNG Seminar in Verona, Italy, September 2008.
- DLG (2000): *Improving Land Consolidation System*. Project fact sheet.
- DLG and Arcadis (2001a): *Integrated drainage and land development pilot in Estonia – Project completion report*.
- DLG and Arcadis (2001b): *Integrated drainage and land development pilot in Estonia*. Project brochure.
- DLG (2005a): *Technical Report on the Institutional Aspects of Land Development in Podkarpackie Province, Poland*.
- DLG (2005b): *Pilot Projects Land Consolidation Grodzisko Górne and Grodzisko Dolne, Podkarpackie Province, Poland - Technical Report*.
- DLG (2005c): *Technical Assistance for Land Consolidation in Hungary (TALC) – Progress Report for the period January – May 2005 and Project Completion Report*.
- DLG and Ministry of Agriculture Lithuania / National Land Service. (2006): *The manual on environmental impact assessment in relation to land consolidation*.
- DLG (2009): *EMERALD project - Final Report (FYR of Macedonia)*.
- DLG (2011): *Guiding the land market by land banking*. Brochure on land banking.
- DLG and SNV (2012): *STIMERALD project - Piloting Land Consolidation in Konce (FYR of Macedonia)*.
- DLG (2013): *CATAPULD Completion Report (Ukraine)*.
- Drees, A. and Sünderhauf, R. (2006): *Land Consolidation as a Tool for Flood Prevention*. Paper for FIG congress in Munich.
- Drinjak, R., Maksimovic, R. and Corluca, B. (2013): *Dracevo Land Consolidation Pilot Project – Baseline Report (Bosnia and Herzegovina)*. Unpublished project document.
- Dudwick, N., Fock, K., Sedik, D. (2005): *A Stocktaking of Land Reform and Farm Restructuring in Bulgaria, Moldova, Azerbaijan and Kazakhstan*.

- East-West Management Institute. (2001): *Moldova Land Privatization Program – Final Report*.
- Ebanoidze, J. (2003): *Current Land Policy Issues in Georgia*. Land Reform Special. FAO.
- Econet Romania. (2014): *New law regarding the sale and purchase of agricultural lands*. Weblink: <http://www.econet-romania.com/en/single-news/589/new-law-regarding-the-sale-and-purchase-of-agricultural-lands.html>.
- Egiashvili, D. (2005): *Aspects of land consolidation in Georgia*. Paper for FAO regional land consolidation workshop in Prague.
- Elmstrøm, H. and Nielsen, B. (1987): *Jordfordeling i en almindelig landinspektørforretning* (in Danish) (Land consolidation in an average private surveying company). Landinspektøren. 33. bd., 530-536.
- Eskildsen, K. et al. (2006): *Policy Support for Land Consolidation – Final Report (15 December 2005 – 15 November 2006)* (Europeaid/120518/D/SV/RO) (Romania).
- ETC-DLG-LRS (2005): *Support for Institution Building in Rural Development in Pilot Regions in Poland – Completion Report*.
- European Commission (1999): *An Evaluation of PHARE Financed Agricultural Reform Programmes in the Candidate Member States – Final Report*. Prepared by FAI Ltd. /ADE for the EC.
- European Parliament (2010): *Private Properties Issues Following the Change of Political Regime in Former Socialist or Communist Countries – Study*. Directorate-General for Internal Policies.
- FAO (2003): *The design of land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Studies 6. Rome.
- FAO (2004a): *Operations manual for land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Manuals no. 1. Rome.
- FAO (2004b): *Support to the Preparation and Implementation of Land Consolidation and Improved Land Management Schemes (Armenia) (TCP/ARM/3004)*. Unpublished project document.
- FAO (2004c): *Support to the development of a strategy for territorial organization and sustainable land management in areas with high natural disaster risk (TCP/HUN/3202)*. Unpublished project document.
- FAO (2005): *Support to Preparation of a national Land Consolidation strategy and a land consolidation pilot project in Serbia (TCP/YUG/3001)*. Unpublished project document.
- FAO. (2006a): *Land tenure training materials on land consolidation pilot projects*. Rome, FAO.
- FAO (2006b): *Support to the preparation of an operational land consolidation system in Lithuania (TCP/LIT/3101)*. Unpublished project document.
- FAO (2007): *Good governance in land tenure and administration*. FAO Land Tenure Studies 9

- FAO (2008): *Opportunities to mainstream land consolidation in rural development programmes of the European Union*. FAO Land Tenure Policy Series 2. Rome.
- FAO (2010): *Support to the Preparation of a National Land Consolidation Strategy and a Land Consolidation Pilot Project (TCP/ALB/3301)*. Unpublished project document.
- FAO (2012a): *Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security*. Rome.
- FAO (2012b): *Assessment of the Agriculture and Rural Development Sectors in the Eastern Partnership countries – Republic of Belarus*. Study funded by the European Union.
- Flachner, Z. (2007a): *Land consolidation in Hungary: Lessons learned from the Bereg FAO pilot project*. Paper for FAO regional land consolidation workshop in Prague.
- Flachner, Z. (2007b): *Land consolidation in Hungary: Lessons learned from the Bereg FAO pilot project*. Powerpoint presentation for FAO regional land consolidation workshop in Prague.
- Flachner, Z. (2008): *Participatory Micro Regional Development in Areas with High Risk – The Bereg Landscape – FAO TCP Project (TCP/HUN/3002) – Final Report*. FAO.
- Flyvbjerg, B. (2011): *Case Study*. In Denzin, N. and Lincoln, Y. (eds): *The Sage Handbook of Qualitative Research*, 4th Edition (Thousand Oaks, CA: Sage, 2011), Chapter 17, p. 301-316.
- Gashi, I. and Karrica, M. (2013): *Experiences with land consolidation and future perspectives in Kosovo*. Powerpoint presentation held at FAO regional land consolidation workshop in Sarajevo.
- Georgieva, A. (2005): *Land consolidation models: The World bank experience in Bulgaria*. Paper for 4CLI land consolidation workshop in Budapest.
- GFA Consulting Group et al. (2008): *Agricultural Land Utilisation Project – Project Completion Report (Kosovo)*.
- GFA Consulting Group et al. (2012): *Further Support to Land Use – Final Project Completion Report (Kosovo)*.
- Giovarelli, R. and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO.
- Glenny, M. (1999): *The Balkans – Nationalism, War, and the Great Powers, 1804-1999*. Penguin Books.
- Government of the Republic of Moldova (2011): *National Strategy for Land Consolidation (unpublished final draft version)*.
- Government of the Republic of Armenia (2011): *Armenia Farm Consolidation Concept (Unofficial translation)*.
- Haldrup, N., Meier Andersen, N., Schmidt-Kallert, E. (2003): *Land consolidation and land tenure assessment mission, Republic of Serbia – Pre-feasibility study*. FAO.

- Haldrup, N. O. (2004): *Danish Land Consolidation – The interaction between land consolidation and land banking*. Paper for FAO land banking workshop in Tonder, Denmark, March 2004.
- Haldrup, N.O. (2011): *Almindelig jordfordeling – igen* (in Danish) (Traditional land consolidation – again). Landinspektøren, issue 1/20112, 31-33.
- Hartmann, N.U. (1981): *Jordomlægningerne i Skjernådal* (in Danish) (Land consolidation in the Skjern River Valley). Book chapter in *Skjernådal* *før, under og efter afvandingen*. Landvindingslagene i Skjernådal og Skjern-Tarm Landboforening.
- Hartvigsen, M. and Østergaard, F. (1993): *Erfaring med jordfordeling i forbindelse med større naturgenopretningsprojekter* (in Danish) (Experiences with land consolidation in connection with larger nature restoration projects). Landinspektøren. 36. bd., 560-563.
- Hartvigsen, M. (2004): *Danish – Lithuanian Land Consolidation Pilot Projects in Lithuania*. Paper for FAO Land Bank workshop in Tonder, Denmark.
- Hartvigsen, M. and Haldrup, N. (2005): *Land Re-parceling Study – Background Report*. Copenhagen, Danish Ministry of Food, Agriculture and Fisheries.
- Hartvigsen, M. (2006): *Land Consolidation in Central and Eastern European Countries*. Conference paper for FIG Congress, Munich 2006. Weblink: https://www.google.dk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCKQFjAA&url=https%3A%2F%2Fwww.fig.net%2Fpub%2Ffig2006%2Fpapers%2Fts71%2Fts71_04_hartvigsen_0882.pdf&ei=nmL7U5yBGIjMyAPNz4LYBQ&usq=AFQjCNFxtUw6OopX7HxZ8HgpFQh70HPVwg&sig2=N_m5qvngGQvVEJ6R3-O1ng
- Hartvigsen, M., Haldrup, N., Blaabjerg, E., Meier Andersen, N. (2006): *Land Re-parceling Study – Appraisal Report (Pilot Program Design)*. Danish Ministry of Food, Agriculture and Fisheries.
- Hartvigsen, M. (2007): *Moldova Land Re-parceling Pilot Project – Inception Report*. Niras, Orbicon, ACSA and Terra Institute.
- Hartvigsen, M. (2008a): *Moldova Land Re-parceling Pilot Project – Mid-term Report*. Niras, Orbicon, ACSA and Terra Institute.
- Hartvigsen, M. (2008b): *Selection of 40 Re-parceling Project Communities to be implemented 2009–10*. December 2008. Orbicon.
- Hartvigsen, M. (2009): *Moldova Land Re-parceling Pilot Project – Final Report*. Niras, Orbicon, ACSA and Terra Institute.
- Hartvigsen, M. (2010): *International Consultant on Land Re-Parceling input to the preparation of a National Land Re-parceling Strategy – Final Report*. Orbicon.
- Hartvigsen, M. (2012): *Note on the outcome and lessons learned from land consolidation pilots in three villages in Terbuf Commune, Albania*. Unpublished project document. FAO land consolidation project TCP/ALB/3301.

- Hartvigsen, M., Gorgan, M. and Palmer, D. (2013): *Experiences with Land Reform and Land Consolidation in Moldova*. FAO Land Tenure Journal nr. 2/2012, 6-37. Weblink: <http://www.fao.org/nr/tenure/land-tenure-journal/index.php/LTJ/article/view/59>.
- Hartvigsen, M., (2013a): *Land Reform in Central and Eastern Europe after 1989 and its outcome in form of farm structures and land fragmentation*. FAO Land Tenure Working Paper 24. Web link: <http://www.fao.org/docrep/017/aq097e/aq097e.pdf>
- Hartvigsen, M. (2013b): *Land Reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), 330-341. Weblink: <http://www.sciencedirect.com/science/article/pii/S026483771300166X>
- Hartvigsen, M. (2014a): *Land Mobility in a Central and Eastern European Land Consolidation Context*. Nordic Journal of Surveying and Real Estate Research. Volume 10, Number 1, 2014. Weblink: <http://ojs.tsv.fi/index.php/njs/article/view/41460>
- Hartvigsen, M. (2014b): *Land consolidation and land banking in Denmark – tradition, multi-purpose and perspectives*. Danish Journal of Geoinformatics and Land Management, Year 122, Vol. 47, 1-7 (2014). Weblink: <http://www.journals.aau.dk/index.php/tka/article/view/987>.
- Hartvigsen, M. (2015): *Experiences with land consolidation and land banking in Central and Eastern Europe after 1989*. FAO Land Tenure Working Paper 26. Weblink: <http://www.fao.org/nr/tenure/infores/ltpapers/en/>
- Hiironen, J. and Niukkanen K. (2013): *On the structural development of arable land in Finland – How costly will it be for the climate*. Land Use Policy 36 (2014) 192-198.
- Howe, K. S. (1998): *Politics, equity, and efficiency – Objectives and outcomes in Bulgarian land reform*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*.
- Ivanoski, P. (2013): *Land consolidation in Macedonia*. Powerpoint presentation for FAO regional land consolidation workshop in Sarajevo, February 2013.
- Jacoby, E. (1959): *Land Consolidation in Europe*. International Institute for Land Reclamation and Improvement, Wageningen.
- Jansen, L. (2012): *Improvement of agricultural production in Romania by improvement of land administration, land consolidation and more efficient farms – Study on land consolidation*. ANCPI, Kadaster and DLG.
- Jansen, L. (2013): *Voluntary parcel exchanges in Romania*. Note on project in Abroad – periodical newsletter of Kadaster International March 2013, Netherlands.
- Jordbrugsdirektoratet (1980-1997): *Årsberetninger* (in Danish) (Annual reports).

- Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013.
- Jürgenson, E. and Maasikamäe, S. (2009): *Progress of Land Reform in Estonian Rural Municipalities – Results of Preliminary Study*. Rural Land Landscape trends.
- Jürgenson, E., Hass, H., Maasikamäe, S. (2010): *The Impact of Land Fund Characteristics on the Land Reform Results in Estonian Rural Municipalities*. Technologijos Mokslai.
- Jürgenson, E. (2014a): *Overview of Land Consolidation in Estonia*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.
- Jürgenson, E. (2014b): *Land reform and land fragmentation in Estonia*. Paper for PhD course at Aalborg University, May 2014.
- Jørgensen, C., Mortensen, P., Wulff, H. (Edt.) (1997): *Jord lovgivning* (in Danish) (Land legislation). GADJura,
- Kabat, L. and Hagedorn, K. (1997): *Privatisation and decollectivisation policies and resulting structural changes of agriculture in Slovakia*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Kasabov, M. (2005): *Land consolidation and territorial organization in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.
- Kaugure, L. and Pijunovic, V. (2014a): *Community Development Plan for Trncina (Ravno) Pilot Area*. Unpublished project document.
- Kaugure, L. and Pijunovic, V. (2014b): *Community Development Plan for Dracevo Pilot Area*. Unpublished project document.
- Kaulich, K. (2013): *Importance and Prospect of Land Consolidation in the Czech Republic*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013.
- Keith, S., Georgievski, K., Mlitić, K. (2009): *Options for the management of state land in rural areas of The former Yugoslav Republic of Macedonia*. Land Reform 2009/1. FAO.
- King, R. and Burton, S. (1982): *Land fragmentation: notes on a fundamental rural spatial problem*. Progress in Human Geography 6(4): 475-494.
- Klæsøe, L. (1997): *Jordfordelingsloven* (In Danish) (Law on Land consolidation). In Jørgensen, C. et al.(Edt.). *Jord lovgivning* (in Danish) (Land legislation). GADJura, pp. 797-879.
- Kofoed, C.A. (1985): *My Share in the Stolypin Agrarian Reforms*. Odense University Press.
- Kopeva, D., Noev, N., Evtimov, V. (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A case study from Bulgaria*. FAO.

- Kosovo Ministry of Agriculture, Forestry and rural Development (2009): *Kosovo Agriculture and Rural Development Plan 2009-13*.
- Kovandova, M. (2006): *Could the Land Consolidation Process Be an Effective Tool for Nature and Environmental Protection in the Czech Republic?* Conference paper for FIG Congress in Munich."
- Kovacs, E. and Ossko, A. (2004): *Land consolidation in Hungary – dream or reality?* In van der Molen, P. and Lemmen, C. (edit): *Proceedings of a Symposium held by FIG Commission 7 on 10 and 11 September 2004 in Volvic, France*.
- Kozłowski, J. and Zadura, A. (2007): *Land consolidation and exchange works in Poland: statute, experiences and priorities*. Paper presented at FAO regional land consolidation workshop in Prague.
- Kvale, S. and Brinkmann, S. (2009). *Interviews – Learning the Craft of Qualitative Research Interviewing*. SAGE Publications.
- Kupidura, A. (2010). *Management of the agricultural landscape in land consolidation projects in Poland*. The Problems of Landscape Ecology, Vol. XXVIII, 163-169.
- Kupidura, A., Łuczewski, M., Home, R., Kupidura, P. (2014). *Public perceptions of rural landscapes in land consolidation procedures in Poland*. Land Use Policy (2014).
- Landbrugsministeriet (Ministry of Agriculture) (1982): *Jordfordeling – rapport fra en arbejdsgruppe under Landbrugsministeriet* (in Danish) (Land consolidation – report from a working group under the Ministry of Agriculture).
- Landbrugsministeriet (Ministry of Agriculture) (1988): *Struktur- og Planudvalget – 2. Delbetænkning* (Betænkning nr. 1145) (in Danish).
- Lazur, R., (2005): *Slovakia case study – land consolidation in Slovakia*. Paper for FAO land consolidation workshop, Prague 2005.
- Leenen, H. (2014): *Land Development in The Netherlands*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2014.
- Leimontaite, G. (2013): *Land Consolidation in EU Rural Development Policy in Lithuania*. Powerpoint presentation for FAO land consolidation workshop in Skopje.
- Lerman, Z., Csaki, C., Feder, G. (2004): *Agriculture in Transition – Land Policies and Evolving Farm Structures in Post-Soviet Countries*. Lexinton Books.
- Lerman, Z. (2004): *Successful land Individualization in Trans-Caucasia: Armenia, Azerbaijan, Georgia*. In Macey, D. et al. (edt.) (2004): *Building Market Institutions in Post-Communist Agriculture*. Lexinton Books.
- Lerman, Z., Sedik, D., Pugachov, N., Goncharuk, A. (2007): *Rethinking agricultural reform in Ukraine*. IAMO and FAO.
- Lisec, A. (2012): *Unpublished notes on land reform and land restitution in Slovenia*.

- Lisec, A., Sevatdal, H., Bjerva, Ø., Ferlan, M. (2012): *The institutional framework of land consolidation – comparative analysis between Slovenia and Norway*. Paper for FIG Working Week, Rome, May 2012.
- Lisec, A., Primožic, T., Ferlan, M., Sumrada, R., Drobne, S. (2014): *Land owners' perception of land consolidation and their satisfaction with the results – Slovenian experiences*. Land Use Policy vol. 38 (2014).
- Louwsma, M., Van Beek, M., Hoeve, B. (2014): *A New Approach: Participatory Land Consolidation*. Paper presented at FIG Congress in Kuala Lumpur.
- Mahir, E. et al. (2014): *Land consolidation strategy framework paper*. Unpublished project document (Bosnia and Herzegovina). FAO.
- Markuszcwaska, I. (2013): *Land consolidation as an instrument of shaping the agrarian structure in Poland: A case study of the Wielkopolskie and Dolnoslaskie Voivodships*. Quaestiones Geographicae 32(3).
- Marosan, M. (2012): *Identification of Main Legal Issues Important for Successful Land Consolidation in Serbia*. Master Thesis from land management studies at KTH.
- Marosan, S. and Knezevic, Z. (2005): *The state of land management and land consolidation in Serbia and Montenegro*. Paper prepared for FAO regional land consolidation workshop in Prague.
- Marosan, S., Milecevic, D., Dokic, V., Soskic, M. (2014): *Value framework for evaluation of land banks / funds*. Geodetski Vestnik Vol. 58, No. 3, 568-577.
- Mathijs, E. and Meszaros, S. (1997): *Privatisation and restructuring of Hungarian agriculture*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- McPherson, M. (1982): *Land Fragmentation: A Selected Literature Review*. Development Discussion Paper No. 141. Harvard Institute for International Development, Harvard University.
- Meier Andersen, N. (2004): *Land Banking and Land Fund Schemes in Denmark*. Paper for FAO land banking workshop in Tonder, Denmark, March 2004.
- Melmed-Sanjak, J., Bloch, P., Hanson, R. (1998): *Project for the Analysis of Land Tenure and Agricultural Productivity in the Republic of Macedonia*. Working Paper no. 19. Land Tenure Center, University of Wisconsin.
- Meyers, W.H. and Kazlauskienė, N. (1998): *Land reform in Estonia, Latvia and Lithuania – A comparative analysis*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*.
- Milicevic, D., Marosan, S., Bozic, B. (2013): *The history of land consolidation in Serbia*. Paper prepared for the First International Symposium on Agricultural Engineering, 4-6 October 2013, Belgrade, Serbia.

- Ministry of Agriculture (Latvia) (1999): *Rural development plan of the European Community support for agriculture and rural development in Latvia (SAPARD)*.
- Ministry of Agriculture (Lithuania) (2006): *National Land Consolidation Strategy for Lithuania*.
- Ministry of Agriculture, Forestry and Water Management (2006): *Montenegro's Agriculture and European Union – Agriculture and Rural Development Strategy*.
- Ministry of Agriculture and Environmental Protection (Serbia) (2007): *Land consolidation strategy – Republic of Serbia – final draft*.
- Ministry of Agriculture, Forestry and Food (Slovenia) (2007): *Rural Development Programme of the Republic of Slovenia 2007-13*.
- Ministry of Agriculture (Croatia) (2009): *Croatian Agriculture*. Information brochure.
- Ministry of Agriculture, Forestry and Rural Development (Kosovo) (2009): *Agriculture and Rural Development Plan 2009-13*.
- Ministry of Agriculture, Forestry and Rural Development (Kosovo) (2010): *Land Consolidation Strategy 2010 – 2020*.
- Ministry of Agriculture and Food (Bulgaria) & DLG (2010): *Integrated land consolidation project village of Katunet, Lovetch region, Republic of Bulgaria*. Project brochure.
- Ministry of Agriculture and Rural Development (Poland) (2013): *Land consolidation area in hectares per year 2004-12*. Unpublished.
- Ministry of Agriculture, Food and Consumer Protection (Albania) (2013): *Albanian National Land Consolidation Strategy (unpublished final draft version)*.
- Ministry of Agriculture and Rural Development (Romania) (2014): *National Rural Development Programme for the 2014 – 2020 period*.
- Ministry of Agriculture, Rural Development and Water Management (Albania) (2014): *Inter-sectoral strategy for agriculture and rural development in Albania – Final Draft version May 2014 (not yet approved by Council of Ministers)*.
- Ministry of Agriculture and Rural Development (Montenegro) (2014): *Strategy for Development of Agriculture and Rural Areas – Draft version 3.0 July 2014*.
- Ministry of Environment (Denmark) (2005): *The Skjern River*.
- Ministry of Environment (Denmark) (2008): *Den Særlige Vand og Naturindsats* (in Danish) (The Specific Water and Nature Measure).
- Ministry of Food, Agriculture and Fisheries (Denmark) (2013): *Draft Danish Rural Development Programme for 2014-2020 (in Danish)*.
- Montenegro Statistical Office (2011): *Agricultural Census 2010 – Structure of Agricultural Holdings*.

- Muchova, Z., Leitmanová, M., Petrovič, F. (2012): *Process on land consolidation in Slovakia (Case study of Velke Vozokany)*.
- Munk Mouritsen, A. K. (2003): *Miljø- og kulturbaseret ejendomsudformning I det agrare landskab – en bæredygtig løsning for både landbrug, miljø og kulturmiljø*. PhD Thesis. Aalborg University
- Munk Mouritsen, A. K. (2004): *Property Restructuring in Denmark – a Method for Achieving the Objectives of Environmental Protection and Cultural Heritage*. Nordic Journal of Surveying and Real Estate Research, no. 1, 2004, 44-56.
- Muradyan, A. and Pashayan, M. (2008): *Land Consolidation Pilot Project in Armenia*. Paper for FAO regional land consolidation workshop in Prague.
- Müller, W., Lieberei, J., Lejava, V. (2001): *Strategy for land Consolidation and Improved Land Management in Georgia – Pre-Feasibility Study*. FAO.
- National Bureau of Statistics (Moldova) (2011): *Preliminary result of General Agricultural Census*.
- National Land Service under the Ministry of Agriculture (Lithuania) (2008): *National Land Service under the Ministry of Agriculture*. Information booklet.
- Natur- og Landbrugskommissionen (2013): *Natur og Landbrug – en ny start (in Danish) (Nature and Agriculture – a new start – Final report from the Nature and Agricultural Commission)*.
- Noev, N., Swinnen, J., Vranken, L. (2003): *The Development of Land Rental Markets in Bulgaria and the former Yugoslav Republic of Macedonia*.
- Nordic Consulting Group (NCG) (2009): *Pilot Project on Land Consolidation in Croatia – Final Report*.
- Onega Lopez, F. (2009): *The Land Bank of Galicia*. Powerpoint presentation from workshop on land tenure and land consolidation in Santiago de Compostela, Galicia, Spain.
- Opdenakker, R. (2006): *Advantages and Disadvantages of Four Interview Techniques in Qualitative Research*. FQS – Forum: Qualitative Social Research Volume 7, No. 4, Art. 11, September 2006.
- Orbicon and Capacent-Epinion (2008): *Slutevaluering af det danske landdistriktsprogram 2000-2006 – delrapport vedr. Jordfordeling (in Danish) (Ex-post evaluation of the Danish Rural Development Programme 2000-2006 – Subreport on Land Consolidation)*.
- Orbicon (2009): *Ejendomsmæssig forundersøgelse i forbindelse med Elmelund Skovrejsningsprojekt (in Danish) (Property Pre-study in connection with Elmelund Afforestations Project)*.
- OSCE & UNMIK (2008): *Privatization in Kosovo: Juridical Review of Kosovo Trust Agency Matters by the Special Chamber of the Supreme Court of Kosovo*.
- Ossko, A. and Sebestyen, R. (2005): *Land consolidation in Hungary*. Paper prepared for FAO regional land consolidation workshop in Prague.

- Overchuk, A., Hansen, L. and Hansen, N. (2005): *Developing farm redistribution model in Russia*. Paper for FAO regional land consolidation workshop in Prague.
- Palmer, D., Munro-Faure, P. and Rembold, F. (2004): *Land consolidation and rural development in Central and Eastern Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 2/2004.
- Pasakarnis, G., Morley, D., Maliene, V. (2012): *Rural development and challenges establishing sustainable land use in Eastern European countries*. Land Use Policy 30 (2013), 703-710.
- Pasakarnis, G., Morley, D., Maliene, V. (2013): *Factors Influencing Land Consolidation Success: Lessons Learned in Lithuania*. In Hepperle, E. et al. (Edt.): *Land Management, Potential, Problems and Stumbling Blocks*. Hochschulverlag.
- Parsova, D. and Platonova D. (2012): *Current policy developments in land management and land banking*. Powerpoint presentation for FAO / LANDnet workshop in Budapest.
- Parsova, D. (2013): *Land Abandonment and current policy initiatives on land mobility*. Powerpoint presentation held at FAO / LANDnet workshop in Skopje, FYR of Macedonia.
- Parsova, D. (2014): *From pilot experiences to land consolidation framework: the Latvian experience*. Powerpoint presentation for Landnet / FAO regional land consolidation workshop in Belgrade, Serbia, in June 2014.
- Parsova, V. and Kapostins, E. (2012): *Does land consolidation fit everywhere?* Paper from FIG Working Week in Rome.
- Pavlovic, T. (2014): *The importance of land consolidation in Serbia*. Powerpoint presentation for Landnet / FAO regional land consolidation conference in Belgrade, Serbia.
- Pivcova, J. (2007): *Land Consolidation in the Czech Republic and support from EU Funds in 2007-13*. Paper for FAO regional land consolidation workshop in Prague.
- Plank, C. (2013): *Land Grabs in the Black Earth*. In Eade, D. (edt.): *Land concentration, land grabbing and people's struggles in Europe*. Published by the Transnational Institute (TNI) for European Coordination Via Campesina and Hands off the Land network.
- Platonova, D. and Jankava, A. (2011): *Research on the Preconditions of Land Consolidation in Rural Districts*. Economic science for rural development no. 26, 2011, 174-181.
- Platonova, D. and Jankava, A. (2012): *Description of land fragmentation in Latvia and its prevention opportunities*. Latvia University of Agriculture.
- Priemé, J. (1997): *Fra jord til bord – Strukturdirektoratets historie* (in Danish) (From soil to table). Strukturdirektoratet.

- Ratinger, T & Rabinowicz, E. (1997): *Changes in farming structures in the Czech Republic as a result of land reform and privatization*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Ravnikar, L. and Tanko, D. (2005): *Land consolidation in Slovenia*. Paper prepared for FAO regional land consolidation workshop in Prague.
- Rembold, F. (2003). *Land fragmentation and its impact in Central and Eastern European countries and the Commonwealth of Independent States*. Land Reform nr. 1/2003. FAO.
- Research Institute of Agricultural and Food Economics (2009): *Ex post evaluation of the SAPARD programme in the SR (Slovak Republic) – Final Report*.
- Rusu, M., Florian, V., Popa, M., Marin, P., Pamfil, V. (2002): *Land fragmentation and land consolidation in the agricultural sector – A Case Study from Romania*. FAO.
- Rusu, M. and Pamfil, V. (2005): *Agricultural land reform and land consolidation in Romania*. Workshop paper from FAO Land Consolidation workshop. Prague March 2005.
- Safarov, E. (2012): *Management of State Land in Azerbaijan*. Paper for FIG – FAO workshop on state land management in Budapest.
- Sahlin, Å. and Kalyta, M. (2008): *Development of Real Property Market in the Republic of Belarus*. SIDA Evaluation 2008:19.
- Sallaku, F. (2011): *Land Consolidation Baseline Survey in Terbuf Pilot Municipality*. Unpublished project document. FAO land consolidation project TCP/ALB/3301.
- Sarris, A. H. and Gavrilescu, D. (1997): *Restructuring of farms and agricultural systems in Romania*. In Swinnen, J. et al. (edit): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Schmidt-Kallert, E. (2004): *A Short Introduction to Micro-Regional Planning*. FAO.
- Sebates-Wheeler, R. (2002). *Consolidation initiatives after land reform: Responses to multiple dimensions of land fragmentation in Eastern European agriculture*. Journal of International Development nr. 14, 1005 – 1018.
- Sebestyen, R. (2004): *The National Land Fund*. Paper for FAO workshop on land banking, Tonder, Denmark.
- Sedik, D. and Lerman Z. (2008): *Land Reform, Transition, and Rural Development*. Development & Transition no. 11/December 2008. UNDP and London School of Economics and Political Science.

- Sikor, T., Müller, D., Stahl, J. (2009): *Land Fragmentation and Cropland Abandonment in Albania: Implications for the Role of State and Community in Post-Socialist Land Consolidation*. World Development Vol. 37, No. 8, 1411 – 1423.
- Sklenicka, P., Hladík, J., Střeleček, F., Kottová, B., Lososová, J., Číhal, L., Šálek, M. (2009): *Historical, environmental and socio-economic driving forces on land ownership fragmentation, the land consolidation effect and the project costs*. Agricultural Economics 55 (2009), 571-582.
- Sproge, K. (2014): *Vision of Land Consolidation Process in Latvia*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.
- Stanfield, D., Thomas, S., Kelm, K., Dorsey, J. (2004): *An Assessment of Property Rights in Kosovo*. USAID.
- Stoyanov, K. (2006): *New approaches for land consolidation in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.
- Stoyanov, K. (2007): *The Bulgarian land consolidation strategy 2007-13 and the share of the Rural Development Programme within the land consolidation process*. Paper for FAO regional land consolidation workshop in Prague.
- Stoyanov, K. (2008): *Land market, land banking efforts and impact evaluation for land development projects in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.
- Stoyanov, K. (2014): *Experiences with voluntary land consolidation projects and rural development programming*. Paper prepared for Landnet / FAO regional land consolidation conference in Belgrade, Serbia.
- Sunesen, A. (1987): *Jordfordelingslovens administration* (in Danish) (The administration of the Law on Land Consolidation). Landinspektøren. 33. bd., 510-517.
- Swinnen, J., Buckwell, A., Mathijs, E. (Edt.) (1997): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd. Aldershot.
- Swinnen, J. and Mathijs, E. (1997): *Agricultural privatization, land reform and farm restructuring in Central and Eastern Europe: A comparative analysis*. In Swinnen, J. et al. (Edt.) (1997): *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate Publishing Ltd.
- Swinnen, J. and Vranken, L., (2009): *Land & EU Accession – Review of the Transitional Restrictions by New Member States on the Acquisition of Agricultural Real Estate*. Centre for European Policy Studies (CEPS).

- Sørensen, E.M. (1987a): *Lokal landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979-84 og om forandring af landbrug og landskab* (in Danish) (Local agricultural planning – a study of the Danish land consolidation practise 1979-84 and regarding changes in agriculture and landscape). Aalborg Universitetsforlag. Serie om offentlig planlægning nr. 21.
- Sørensen, E.M. (1987b): *Jordfordeling i et udviklingsperspektiv* (in Danish) (Land consolidation in a development perspective). Landinspektøren. 33. bd., 550-561.
- Tarelli, I. (2012): *The management of state agricultural land in Albania: the role of central and local governments*. Paper for FIG / FAO seminar on state land management, Budapest, September 2012.
- Thomas, J. (2004): *Modern land consolidation – recent trends on land consolidation in Germany*. Paper from FIG symposium on modern land consolidation, Volvic, France.
- Thomas, J. (2006a): *Property rights, land fragmentation and the emerging structure of agriculture in Central and Eastern European countries*. Electronic Journal of Agriculture and Development Economics. Vol. 3, No. 2, 2006, 225-275.
- Thomas, J. (2006b): *Attempt on Systematization of Land Consolidation Approaches in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2006.
- Thomas, J. (2014): *Safeguarding real property rights and rational use by conflicting private and public interests – The German approach*. Geodetski Vestnik Vol. 58, No. 4/2014, 527-544.
- Thomsen, I.E. (1995): *Den sønderjyske jordfond* (in Danish) (The South Jutland Land Bank). Landinspektøren, issue 4/1995, 500-504.
- Travnicek, Z. et al, (2002): *Land Fragmentation and Land Consolidation in the Agricultural Sector – A Case Study from the Czech Republic*. FAO 2002.
- Travnicek, Z., Štolcpart, J., Mazin, V. (2011): *Optimization of the Land Offices organization in the Czech Republic*. Agricultural Economics 57 (2011), 506-515.
- Trnka, J. and Pivcova, J. (2005): *The situation of land management and reparcelling in the Czech Republic*. Paper for FAO Prague land consolidation workshop.
- Tsomaia, E., Ebanoidze, J., Stanfield, D. (2003): *The other Agricultural Land Reform in Georgia: State Leasing of land to Private Farmers*. Prepared by Terra Institute under an agreement with USAID.
- UNECE (2005): *Land Administration in the UNECE Region – Development trends and main principles*.
- UNECE Committee on Housing and Land Management (2007): *Land Administration Review: Azerbaijan*.

- UNECE (2013): *Country Profiles on Housing and Land Management – Ukraine*.
- USAID (2011): *USAID Country Profile – Property rights and resource governance – Albania*.
- Van der Jagt, P. et al. (ed.) (2007): *Far Land Near Future*. FARLAND.
- Van Dijk, T. (2003a): *Scenarios of Central European land fragmentation*. Land Use Policy 20 (2003), 149-158.
- Van Dijk, T. (2003b): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon. Delft.
- Van Dijk, T. and Kopeva, D. (2004): *Land banking and Central Europe: future relevance, current initiatives, Western European past experience*. Land Use Policy 23 (2006), 286-301.
- Van Dijk, T. (2006): *Complications for traditional land consolidation in Central Europe*. Geoforum 38 (2007), 505-511.
- Van Holst, F. (Edt.). (2009): *Lithuanian Land Fund*. Study prepared by VHL and DLG (Netherlands).
- Van Holst, F., Eberlin, R. and Onega Lopez, F. (2014): *LANDNET and Land Market Issues in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2014.
- Varga, V. and Bazik, J. (2013): *Land consolidation as a useful tool for rural development*. MendelNet 2013.
- Vitikainen, A. (2004): *An Overview of Land Consolidation in Europe*. Nordic Journal of Surveying and Real Estate Research. Vol. 1, 2004, p. 25-44.
- Vranken, L., Macours, K., Noev, N., Swinnen, J. (2011): *Property rights imperfections and asset allocation: Co-ownership in Bulgaria*. Journal of Comparative Economics 39 (2011), p. 159-175.
- Wegren, S. (ed.) (1998): *Land Reform in the Former Soviet Union and Eastern Europe*. Routledge.
- Wegren, S. (1998): *The conduct and impact of land reform in Russia*. In Wegren, S. (edit): *Land Reform in the Former Soviet Union and Eastern Europe*.
- Wegren, S. (2008): *The Limits of Land Reform in Russia*. Problems in Post - Communism. Vol. 55, no. 2, March/April 2008.
- Williamson, I., Enemark, S., Wallace, J., Rajabifard, A. (2010): *Land Administration for Sustainable Development*. ESRI Press Academic, Redlands, California.
- World Bank (2001): *Project appraisal document for Albania Agriculture Services Project*.
- World Bank (2005): *Moldova Agricultural Policy Notes*.
- World Bank (2008a): *Agriculture Services project – Implementation Completion and Results Report (Albania)*.

- World Bank (2008b): *Project performance assessment report; Farm Privatization Project, Azerbaijan*.
- World Bank (2014a): *Moldova Land Governance Assessment Framework (LGAF) – Final Report*.
- World Bank (2014b): *Application of the Land Governance Assessment Framework in Ukraine – Synthesis Report*.
- Yin, R. K. (2009): *Case Study Research – Design and Methods*. Fourth Edition. Sage Publications Inc.
- Zadura, A., Zawadska, M., Struziak, A. (2008): *Land Bank and Land Consolidation (Polish case)*. Workshop paper for FAO land consolidation and land banking workshop in Prague, June 2008.
- Zivkov, G. (2010): *Transition Reform of the Agriculture Sector in Former SFRY countries*. Working paper prepared for FAO.
- Østergaard, F. (1987): *Jordfordeling ved vejanlæg* (in Danish) (Land consolidation in connection with road projects). Landinspektøren. 33. bd., 537-543.
- Østergaard, F. (1989): *Naturgenopretning og jordfordeling* (in Danish) (Nature restoration and land consolidation). Landinspektøren. 34. bd., 619-622.
- Østergaard, N. (1967): *Status over jordfordelingsplanlægningen* (in Danish) (Status for Land Consolidation). Statens Byggeforskningsinstitut. SBI særtryk nr. 176.