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Organization of the
United Nations

LAND TENURE
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EXPERIENCES WITH LAND CONSOLIDATION AND LAND BANKING IN CENTRAL AND EASTERN EUROPE AFTER 1989



EXPERIENCES WITH LAND CONSOLIDATION AND LAND BANKING IN CENTRAL AND EASTERN EUROPE AFTER 1989

Morten Hartvigsen

ORBICON

The author has worked as a consultant to FAO on land consolidation projects in Albania, Armenia, Bosnia and Herzegovina, Lithuania, Moldova and the Former Yugoslav Republic of Macedonia. He has also contributed to FAO publications on land consolidation and land reform, 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), FAO Land Tenure Policy Series 1 (Opportunities to mainstream land consolidation in rural development programmes of the European Union, 2008) and Land Tenure Working Paper 24 (Land reform in Central and Eastern Europe after 1989).

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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

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.^{1 2} 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.³

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 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

¹ 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.

² 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.

³ 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.

small-scale family farms and leasing of land is not common.⁴ 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.⁵

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, 2003⁶; Thomas, 2006⁷; Hartvigsen 2006⁸).

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 1).

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?*

Chapter 2 describes the methodology employed in the study. In chapter 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 chapters 4-6. In addition, chapter 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 chapter 4, while chapter 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. Chapter 6 addresses the countries with little or no experience with land consolidation. Chapter 7

⁴ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 334.

⁵ Ibid., p. 339.

⁶ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon.

⁷ Thomas, J. (2006): *Attempt on systematization of land consolidation approaches in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2006.

⁸ Hartvigsen, M. (2006): *Land consolidation in Central and Eastern European countries*. Conference paper for FIG Congress, Munich 2006.

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. Chapter 8 discusses the critique expressed by a group of academics of state-led land consolidation programmes in Central and Eastern Europe. Finally, chapter 9 provides the conclusions of the study.



Figure 1: The coverage of the study in Central and Eastern Europe.

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.

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 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 1).

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 1: Initial categorization of Central and Eastern Europe according to the experience with land consolidation.

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.

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 chapters 4-6.

The work process of the study is illustrated in figure 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 2014.⁹

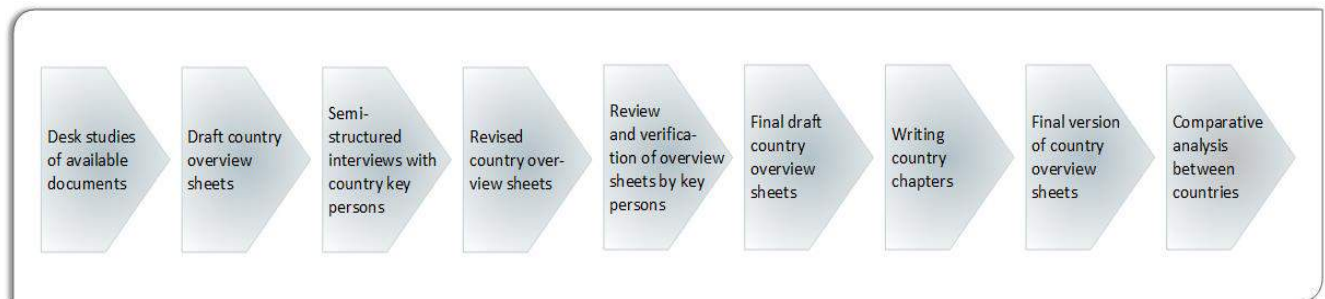


Figure 2: Work process of the study

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.¹⁰ 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 1.

⁹ Proceedings from all FAO and Landnet regional workshops are available at: <http://www.fao.org/europe/activities/land-tenure/landconsce/en/>

¹⁰ 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.

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 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.¹¹ 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.¹² 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.¹³ 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.¹⁴

All interviews were recorded. The list of key persons and interviews is included in annex 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 overview sheets were prepared and they served as the basis for writing this paper. Finally, the

¹¹ Kvale, S. and Brinkmann, S. (2009): *Interviews – Learning the craft of qualitative research interviewing*, p. 130-134.

¹² Ibid., p. 147.

¹³ 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.

¹⁴ Kvale, S. and Brinkmann, S. (2009): *Interviews – Learning the craft of qualitative research interviewing*, p. 128-130.

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 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.

3. Instruments to address land fragmentation and enlarge agricultural holdings

In this chapter, the central terminology is discussed before the analysis in subsequent chapters 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.

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.¹⁵ 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.¹⁶ 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

¹⁵ UNECE (2005): *Land Administration in the UNECE Region – Development trends and main principles*, p. 5.

¹⁶ 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.

*has been associated with broad economic and social reforms from the time of its earliest applications.*¹⁷

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 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).¹⁸ Also the term “state-led land consolidation” is sometimes used in the literature for land consolidation projects implemented under national land consolidation programmes (see chapter 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”.¹⁹

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.²⁰ 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 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

¹⁷ FAO (2004a): *Operations manual for land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Manuals no. 1, p. 1.

¹⁸ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. P. 58-60.

¹⁹ 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.

²⁰ 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.

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.

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 chapters 4-6.

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.²¹ 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.

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

²¹ Leenen, H. (2014): *Land development in the Netherlands*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2014.

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.²² 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.²³ However, this has changed and from the 1990s the voluntary approach of land exchange has become more popular than compulsory land consolidation.²⁴

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.²⁵ 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.

²² Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. P. 102.

²³ Ibid. P. 105-106.

²⁴ Leenen, H. (2014): *Land development in the Netherlands*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2014, p. 169.

²⁵ Email from Jan van Rheeën in October 2014.

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.²⁶ 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.²⁷ 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 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.²⁸ 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.

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.²⁹

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.³⁰

²⁶ Louwsma, M. *et al.* (2014): *A new approach: Participatory land consolidation*. Paper presented at FIG Congress in Kuala Lumpur.

²⁷ 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.

²⁸ 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.

²⁹ 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.

³⁰ 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.

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.³¹

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 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.³² 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.³³ 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.

³¹ 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.

³² ARGE Landentwicklung. (2012): *Guidelines for rural development*. Prepared by Bund – Länder – Task Force for Sustainable Rural Development, p. p. 23.

³³ 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.³⁴ 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 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

³⁴ Hartvigsen, M. (2014b): *Land consolidation and land banking in Denmark – tradition, multifunctionality and perspectives*. Danish Journal of Geoinformatics and Land Management, Year 122, Vol. 47, 1-7 (2014).

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.

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.³⁵ 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).
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.³⁶ 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.

³⁵ 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.

³⁶ FAO (2003): *The design of land consolidation pilot projects in Central and Eastern Europe*. FAO Land Tenure Studies 6, p. 13.

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.³⁷

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.³⁸

The guidelines include a section on land consolidation and land banking.³⁹ 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.

³⁷ Schmidt-Kallert, E. (2004): *A short introduction to micro-regional planning*. FAO.

³⁸ FAO website: <http://www.fao.org/nr/tenure/voluntary-guidelines/en/>

³⁹ 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).

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 chapter 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.

Chapter 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.

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 1918.⁴⁰ 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 3.2).

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.⁴¹ 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.⁴²

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 2000.⁴³

⁴⁰ 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.

⁴¹ 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.

⁴² Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 334 & 339.

⁴³ 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.

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.^{44 45} 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.⁴⁶ 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, 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 Gorny). 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 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*).⁴⁷ 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.⁴⁸ A re-allotment plan is then prepared by the Bureau of Geodesy in consultation with the land consolidation committee.⁴⁹ 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

⁴⁴ 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.

⁴⁵ 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.

⁴⁶ ETC-DLG-LSR (2005): *Support for institution building in rural development in pilot regions in Poland – Completion Report*.

⁴⁷ DLG (2005a): *Technical report on the institutional aspects of land development in Podkarpackie Province, Poland*, p- 10-11.

⁴⁸ Polish land consolidation law § 13.

⁴⁹ DLG (2005b): *Pilot projects land consolidation Grodzisko Górne and Grodzisko Dolne, Podkarpackie Province, Poland - Technical report*, p. 7-8.

participants.⁵⁰ 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.⁵¹ The project is approved by the head of the *Powiat* if the majority of participants do not appeal against the developed re-allotment plan.⁵²

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 and landscape degradation, especially before 1990.⁵³ 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).⁵⁴ 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.⁵⁵

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.⁵⁶ 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.⁵⁷

It is often a lengthy process to get enough support from local landowners to apply for land consolidation projects.⁵⁸ This typically takes up to three years. The length of the projects after approval of the application is on average around four years including

⁵⁰ Polish land consolidation law § 8.

⁵¹ Ibid. § 24.

⁵² Ibid. § 27.

⁵³ Kupidura, A. (2010): *Management of the agricultural landscape in land consolidation projects in Poland*. The Problems of Landscape Ecology, Vol. XXVIII, 163-169.

⁵⁴ Email from Adrianna Kupidura, February 2014.

⁵⁵ Interview with Jerzy Kozłowski in January 2014.

⁵⁶ Interview with Adrianna Kupidura in January 2014.

⁵⁷ Kupidura, A. et al. (2014): *Public perceptions of rural landscapes in land consolidation procedures in Poland*. Land Use Policy (2014).

⁵⁸ ETC-DLG-LRS. (2005): *Support for institution building in rural development in pilot regions in Poland – Completion report*.

registration.⁵⁹ 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 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.⁶⁰ 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.⁶¹ Land consolidation in connection with highway construction is funded by the General Directorate for National Roads and Motorways and not under the RDP.⁶² 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.⁶³

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 2012.⁶⁴ 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 2014-20, 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.⁶⁵

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 consolidated land but has only sold (i.e. privatized) a limited area through the land consolidation projects. It

⁵⁹ Interview with Jerzy Kozłowski in January 2014.

⁶⁰ Ibid.

⁶¹ 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.

⁶² Polish Land Consolidation Law §4.

⁶³ Interview with Jerzy Kozłowski in January 2014.

⁶⁴ Ministry of Agriculture and Rural Development (2013): *Land consolidation area in hectares per year 2004-12*. Unpublished.

⁶⁵ Interview with Jerzy Kozłowski in January 2014.

is the experience, including for APA, that consolidated land has a higher market price than the fragmented parcels.⁶⁶ 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 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.

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.⁶⁷

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.⁶⁸ 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 thus an average of 22 land parcels per agricultural holding.⁶⁹ 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.⁷⁰ The fragmentation of both landownership and land use is high, not so much because of the land reform from 1991 and onwards but more

⁶⁶ Interview with Jolanta Gorska, Tomasz Ciodyk and Anna Zajac-Plezia in January 2014.

⁶⁷ 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. P. 5-6.

⁶⁸ 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.

⁶⁹ 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. P. 3-4.

⁷⁰ 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.

due to the ownership structure from before the Second World War, which is mostly intact.⁷¹

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.⁷² 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.⁷³

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 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).⁷⁴ 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

⁷¹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁷² 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. P. 5-6.

⁷³ Interview with Anka Lisec in January 2014.

⁷⁴ 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.

landowners request and agree with this on a voluntary basis. This option, however, is not generally promoted in the projects.⁷⁵

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.⁷⁶ The length of projects used to be around seven years.⁷⁷ In recent years, the average project period is around five years.⁷⁸

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 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.⁷⁹ Recent examples are in eastern Slovenia with the construction of the new highway and railway from Ljubljana to Budapest.⁸⁰

The land consolidation projects implemented before 1991 led to a loss of biodiversity and landscape degradation in many situations.⁸¹ In the western part of the country many hedges between fields were removed after land consolidation, resulting in increased wind erosion.⁸² Today, EIA of land consolidation are conducted in projects where the land use is changing.⁸³ 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

⁷⁵ Interview with Anka Lisec in January 2014.

⁷⁶ 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).

⁷⁷ Ravnkar, L. and Tanko, D. (2005): *Land consolidation in Slovenia*. Paper prepared for FAO regional land consolidation workshop in Prague.

⁷⁸ Interview with Anka Lisec in January 2014.

⁷⁹ Ravnkar, L. and Tanko, D. (2005): *Land consolidation in Slovenia*. Paper prepared for FAO regional land consolidation workshop in Prague.

⁸⁰ Interview with Anka Lisec in January 2014.

⁸¹ Lisec, A. and Pintar, M. (2005): *Conservation of natural ecosystems by land consolidation in the rural landscape*. Acta Agriculturae Slovenica, 85-1, May 2005.

⁸² Interview with Anka Lisec in January 2014.

⁸³ Email from Anka Lisec in March 2014.

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.⁸⁴ 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.⁸⁵ 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.

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.⁸⁶

The Slovenian state land fund still had around 60 000 ha (i.e. nine percent of all agricultural land) in its possession in 2011.⁸⁷ 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.⁸⁸

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.⁸⁹

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.⁹⁰ The EU membership in 2004 has led to the introduction of EIA procedures.

⁸⁴ Ministry of Agriculture, Forestry and Food. (2007): *Rural Development Programme of the Republic of Slovenia 2007-13*, p. 113-115.

⁸⁵ Email from Tomaz Primožic in November 2013.

⁸⁶ Interview with Anka Lisec in January 2014.

⁸⁷ Lisec, A. (2012): *Unpublished notes on land reform and land restitution in Slovenia*.

⁸⁸ Interview with Anka Lisec in January 2014.

⁸⁹ Email from Anka Lisec in March 2014.

⁹⁰ 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).

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.

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.

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 1868.⁹¹ 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.⁹² The introduction of land consolidation was tightly connected with the land reform in the country.⁹³

The land reform process in the Czech Republic resulted in farm structures still completely dominated by large-scale corporate farms.⁹⁴ 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.⁹⁵ 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. Co-ownership is widespread and continues through

⁹¹ Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV - – Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 194.

⁹² 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.

⁹³ 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.

⁹⁴ 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.

⁹⁵ 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.

inheritance. The average number of parcels per owner is 1.59.⁹⁶ 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.⁹⁷

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.⁹⁸ However, land consolidation experience from Bavaria and Upper Austria gave, as mentioned, inspiration to setting up the programme in the 1990s.⁹⁹

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.¹⁰⁰ 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.¹⁰¹

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 Decree no. 13/2014 on the Procedure for the Implementation of Land Consolidation.¹⁰²

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.¹⁰³ 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

⁹⁶ Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013.

⁹⁷ Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 193.

⁹⁸ Email from Jiri Fiser in July 2014.

⁹⁹ 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.

¹⁰⁰ Interview with Katerina Juskova in August 2014.

¹⁰¹ Email from Katerina Juskova in April 2014.

¹⁰² Ibid.

¹⁰³ Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 193.

and environmental protection (e.g. erosion and flood control measures). Simple land consolidation is also applied in connection with construction of main roads.¹⁰⁴

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.¹⁰⁵ 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.¹⁰⁶ The average length of comprehensive projects in recent years has been around five to six years and three years for simple land consolidation projects.¹⁰⁷

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.¹⁰⁸ 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.¹⁰⁹ 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.¹¹⁰ 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.¹¹¹

¹⁰⁴ 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.

¹⁰⁵ Email from Jiri Fiser in July 2014.

¹⁰⁶ Interview with Katerina Juskova in August 2014.

¹⁰⁷ 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.

¹⁰⁸ Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013.

¹⁰⁹ Kaulich, K. (2013): *Importance and prospect of land consolidation in the Czech Republic*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2013, p. 197.

¹¹⁰ 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.

¹¹¹ Cihal, L. (2006): *Remarks on the land consolidation in the Czech Republic*. Paper for FAO Prague land consolidation workshop.

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.¹¹² There are good experiences with the use of the plans of common facilities in connection with land consolidation projects.¹¹³ 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.¹¹⁴ The rural development elements in land consolidation projects have significantly increased (e.g. flood control, renewal of 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.^{115 116}

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).¹¹⁷ 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 2007-2013.¹¹⁸

¹¹² Email from Jiri Fiser in July 2014.

¹¹³ Interview with Katerina Juskova in August 2014.

¹¹⁴ 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.

¹¹⁵ Trnka, J. and Pivcova, J. (2005): *The situation of land management and reparacling in the Czech Republic*. Paper for FAO Prague land consolidation workshop.

¹¹⁶ Interview with Katerina Juskova in August 2014.

¹¹⁷ 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.

¹¹⁸ Email from Jiri Fiser in July 2014.

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.¹¹⁹ A total of 1.15 million ha had been included in completed or ongoing comprehensive projects. By the end of 2012, the comprehensive projects covered around 26 percent of all agricultural land in the country.¹²⁰ 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.¹²¹

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.¹²² 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.¹²³ 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.

4.4 Slovakia

Land consolidation in Slovakia followed the same path as in the Czech Republic (see section 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 Ownership Organization, Land Offices, Land Fund and Land Associations. Shortly after the velvet revolution, close relations were established with land consolidation

¹¹⁹ Ibid.

¹²⁰ 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.

¹²¹ 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.

¹²² 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.

¹²³ Interview with Katerina Juskova in August 2014.

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.¹²⁴ 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.¹²⁵ 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.¹²⁶ In addition, Slovakia has severe problems with unknown owners of agricultural land. However, land use fragmentation is very low.¹²⁷ 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.¹²⁸

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.¹²⁹

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.¹³⁰ They are often implemented in connection with investment projects (e.g. infrastructure projects).¹³¹ The procedures in simple projects are the same as in complex projects.

¹²⁴ 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.

¹²⁵ Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013.

¹²⁶ 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.

¹²⁷ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

¹²⁸ Email from Jaroslav Bazik in March 2014.

¹²⁹ Ibid.

¹³⁰ Interview with Muchova and Bazik in March 2014.

¹³¹ 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

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.¹³² 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”.¹³³ The average length of projects was around 10 years in the 1990s.¹³⁴ 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.¹³⁵

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 multi-purpose approach by balancing the interests of agriculture, landscape, nature conservation, recreation and transportation.¹³⁶

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.¹³⁷ 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.¹³⁸

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

¹³² Muchova, Z. *et al.* (2012): *Process on land consolidation in Slovakia (Case study of Velke Vozokany)*.

¹³³ Interview with Muchova and Bazik in March 2014.

¹³⁴ Research Institute of Agricultural and Food Economics (2009): *Ex post evaluation of the SAPARD programme in the SR – Final report*, p. 197.

¹³⁵ Email from Zlatica Muchova and Jaroslav Bazik in June 2014.

¹³⁶ Varga, V. and Bazik, J. (2013): *Land consolidation as a useful tool for rural development*. MendelNet 2013, p. 527.

¹³⁷ Interview with Zlatica Muchova and Jaroslav Bazik in March 2014.

¹³⁸ 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.

opens the possibility for District Land Offices to do some of the fieldwork of the projects in the future.¹³⁹

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 2003-2006.¹⁴⁰ 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 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.¹⁴¹ 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.¹⁴² 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.¹⁴³

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.¹⁴⁴ 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).¹⁴⁵ 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

¹³⁹ Email from Muchova and Bazik in September 2014.

¹⁴⁰ Email from Muchova and Bazik in June 2014.

¹⁴¹ Juskova, K. and Muchova, Z. (2013): *Fragmentation of land ownership in Czech Republic and Slovakia as a factor of rural development limitation*. MendelNet 2013.

¹⁴² Research Institute of Agricultural and Food Economics (2009): *Ex post evaluation of the SAPARD programme in the SR – Final report*, p. 197.

¹⁴³ Schwarcz, P. et al. (2013): *Selected issues of the agricultural land market in the Slovak Republic*. Journal of Central European Agriculture, 2013, 14(3).

¹⁴⁴ 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.

¹⁴⁵ Schwarcz, P. et al. (2013): *Selected issues of the agricultural land market in the Slovak Republic*. Journal of Central European Agriculture, 2013, 14(3).

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 more multi-purpose approach with, at the same time, a focus on reduction of ownership fragmentation and local rural development.

4.5 Eastern Germany

The German land consolidation tradition is more than 150 years old.¹⁴⁶ 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.¹⁴⁷

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.¹⁴⁸

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.¹⁴⁹

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 process.¹⁵⁰ 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.

¹⁴⁶ 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.

¹⁴⁷ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

¹⁴⁸ Interview with Joachim Thomas in September 2014.

¹⁴⁹ 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.

¹⁵⁰ 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.

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.¹⁵¹

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.¹⁵²

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.¹⁵³ 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 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

¹⁵¹ Interview with Joachim Thomas in September 2014.

¹⁵² 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.

¹⁵³ Interview with Joachim Thomas in September 2014.

implemented as an alternative to expropriation.¹⁵⁴ “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.¹⁵⁵ “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.¹⁵⁶ 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 second stage.¹⁵⁷ 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.¹⁵⁸ 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.¹⁵⁹ Over the last decades objectives have shifted from agricultural development and infrastructure projects to

¹⁵⁴ ARGE Landentwicklung. (2012): *Guidelines for rural development*. Prepared by Bund – Länder – Task Force for Sustainable Rural Development, p. p. 23.

¹⁵⁵ 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.

¹⁵⁶ Thomas, J. (2006): *Attempt on systematization of land consolidation approaches in Europe*. ZfV - Zeitschrift für Geodäsie, Geoinformation und Landmanagement 3/2006, p. 157.

¹⁵⁷ Interview with Joachim Thomas in September 2014.

¹⁵⁸ 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.

¹⁵⁹ 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.

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.¹⁶⁰ 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 1990.¹⁶¹

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.¹⁶²

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.¹⁶³ 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.¹⁶⁴ 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.¹⁶⁵

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

¹⁶⁰ 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.

¹⁶¹ Email from Joachim Thomas in September 2014.

¹⁶² Interview with Joachim Thomas in September 2014.

¹⁶³ 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.

¹⁶⁴ 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.

¹⁶⁵ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

79 private landowners. Of these, 19 landowners participated in the project and 86 ha changed owner in the voluntary process.¹⁶⁶

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 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.¹⁶⁷

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.¹⁶⁸

¹⁶⁶ 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.

¹⁶⁷ 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.

¹⁶⁸ DLG and Ministry of Agriculture Lithuania / National Land Service. (2006): *The manual on environmental impact assessment in relation to land consolidation* and Daugaliene, V. and

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.¹⁶⁹ 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.¹⁷⁰ 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 2010.¹⁷¹

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.¹⁷² 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.¹⁷³ 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 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.

Leimontaite, G. (2008): *Land consolidation and its nearest future in Lithuania*. Paper for FAO regional land consolidation workshop in Prague.

¹⁶⁹ FAO. (2006): *Support to the preparation of an operational land consolidation system in Lithuania (TCP/LIT/3101)*. Unpublished project document.

¹⁷⁰ Van Holst, F. (Edt.). (2009): *Lithuanian Land Fund*. Study prepared by VHL and DLG (Netherlands).

¹⁷¹ Interview with Jurgita Augutiene in May 2014.

¹⁷² Law on Land (2010), chapter IV.

¹⁷³ Daugaliene, V. and Leimontaite, G. (2008): *Land consolidation and its nearest future in Lithuania*. Paper for FAO regional land consolidation workshop in Prague.

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.¹⁷⁴ 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.¹⁷⁵ 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.¹⁷⁶

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.¹⁷⁷

An EIA is conducted as part of the land consolidation procedure.¹⁷⁸ 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.¹⁷⁹

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 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.¹⁸⁰ 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

¹⁷⁴ 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.

¹⁷⁵ Interview with Audrius Petkevicius in April 2014.

¹⁷⁶ Interview with Jurgita Augutienė in May 2014.

¹⁷⁷ National Land Service under the Ministry of Agriculture. (2008): *National Land Service under the Ministry of Agriculture*. Information booklet, p. 13.

¹⁷⁸ 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.

¹⁷⁹ Interview with Audrius Petkevicius in April 2014.

¹⁸⁰ 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.

projects cannot be carried out in Natura 2000 areas. This is limiting the use of the land consolidation instrument for nature and environmental restoration.¹⁸¹

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.¹⁸² 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 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 2007-2013.¹⁸³ 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.¹⁸⁴ 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 5 800.¹⁸⁵

It is expected that around 400 000 ha of state land will remain unprivatized after the complete finalization of the land reform process.¹⁸⁶ 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 2005-08, it was the intention to involve the state land in the

¹⁸¹ Email from Giedrius Pasakarnis in May 2014.

¹⁸² Daugaliene, V. and Leimontaite, G. (2008): *Land consolidation and its nearest future in Lithuania*. Paper for FAO regional land consolidation workshop in Prague.

¹⁸³ Leimontaite, G. (2013): *Land consolidation in EU rural development policy in Lithuania*. Powerpoint presentation for FAO land consolidation workshop in Skopje.

¹⁸⁴ Ibid.

¹⁸⁵ 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.

¹⁸⁶ Ministry of Agriculture (2007): *National Land Consolidation Strategy*.

projects areas. This was, however, not possible according to the legislation at the time.¹⁸⁷ 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.¹⁸⁸

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.

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.

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 1860.¹⁸⁹ 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.¹⁹⁰ 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

¹⁸⁷ Pasakarnis, G. *et al.* (2012): *Rural development and challenges establishing sustainable land use in Eastern European countries*. Land Use Policy 30 (2013), p. 705.

¹⁸⁸ Interview with Audrius Petkevicius in April 2014.

¹⁸⁹ 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.

¹⁹⁰ 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.

Republic of Serbia as part of the new Law on Agricultural Land.¹⁹¹ 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.

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.¹⁹² 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.¹⁹³

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.¹⁹⁴ 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.¹⁹⁵ 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.¹⁹⁶

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.¹⁹⁷ 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”.¹⁹⁸ 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

¹⁹¹ Interview with Stevan Marosan in July 2014.

¹⁹² Haldrup, N. *et al.* (2003): *Land consolidation and land tenure assessment mission, Republic of Serbia – Pre-feasibility study*. FAO, p. 18.

¹⁹³ 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.

¹⁹⁴ Email from Zoran Knezevic in January 2013.

¹⁹⁵ Marosan, M. (2012): *Identification of main legal issues important for successful land consolidation in Serbia*. Master thesis at KTH, Stockholm.

¹⁹⁶ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

¹⁹⁷ Haldrup, N. *et al.* (2003): *Land consolidation and land tenure assessment mission, Republic of Serbia – Pre-feasibility study*. FAO.

¹⁹⁸ 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.

community development plan for the pilot village.¹⁹⁹ 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.²⁰⁰ 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.²⁰¹ In the pilots, both voluntary and compulsory approaches will be further developed and tested.²⁰² 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.²⁰³ 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.²⁰⁴

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.²⁰⁵ So far, land consolidation is not

¹⁹⁹ Marosan, S. *et al.* (2007): *Land consolidation and rural development in Serbia*. Paper prepared for FAO regional land consolidation workshop in Prague.

²⁰⁰ 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.

²⁰¹ Pavlovic, T. (2014): *The importance of land consolidation in Serbia*. Powerpoint presentation for Landnet / FAO regional land consolidation conference in Belgrade, Serbia.

²⁰² Personal comment by GIZ lead consultant Joachim Thomas in June 2014.

²⁰³ Interview with Zoran Knezevic in June 2014.

²⁰⁴ Interview with Stevan Marosan in July 2014.

²⁰⁵ Ibid.

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 2015.²⁰⁶ The normal duration of the recent land consolidation projects is around three years.²⁰⁷ 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.²⁰⁸ It is expected that 200 000 to 250 000 ha will remain in state ownership after the finalization of the restitution process.²⁰⁹ State agricultural land can be exchanged 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.²¹⁰ 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.²¹¹

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 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.

²⁰⁶ Interview with Zoran Knezevic in June 2014.

²⁰⁷ Email from Mladen Soskic in July 2014.

²⁰⁸ 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.

²⁰⁹ Marosan, S. *et al.* (2014): *Value framework for evaluation of land banks / funds*. Geodetski Vestnik Vol. 58, No. 3, 575-576.

²¹⁰ Interview with Zoran Knezevic in June 2014.

²¹¹ Interview with Stevan Marosan in July 2014.

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 chapter 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 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 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 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 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 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 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 4.4). In Lithuania, it is expected that 400 000 ha will remain in state ownership after complete finalization of land restitution (section 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 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.²¹²

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 workshops²¹³ during the last decade (see chapter 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.²¹⁴ 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.

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.²¹⁵ 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 4.5). This is in line with UNECE recommendations to link land restitution with land consolidation where appropriate and possible.²¹⁶ 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

²¹² 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.

²¹³ 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/landconscee/en/>

²¹⁴ FAO. (2007): *Good governance in land tenure and administration*. FAO Land Tenure Studies 9, p. 12-20.

²¹⁵ 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.

²¹⁶ UNECE (2005): *Land administration in the UNECE region – Development trends and main principles*, p. 5.

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.

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 chapter 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 consolidation was provided by donor-funded projects some 10-20 years ago in the 1990s without leading to a land consolidation programme.

This chapter 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.

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.²¹⁷ 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.²¹⁸ The level of land fragmentation today is higher than it was in 1940.²¹⁹ In 2005, 54 percent of the total UAA was used through lease agreements.²²⁰

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 1926-1940.²²¹

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

²¹⁷ Jürgenson, E. (2014a): *Overview of land consolidation in Estonia*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.

²¹⁸ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

²¹⁹ Jürgenson, E. (2014b): *land reform and land fragmentation in Estonia*. Paper for PhD course at Aalborg University, May 2014.

²²⁰ 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.

²²¹ Interview with Evelin Jürgenson in April 2014.

the World Bank and partly by Dutch development funds.²²² The project approach was fully integrated and compulsory, based on the Dutch land consolidation model (see section 3.2), and aimed at the same time to address 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.²²³

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.²²⁴ The projects were funded by a World Bank loan. The implementation of the projects was difficult and, in general, the results were not good.²²⁵

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.²²⁶

From 2010 and onwards, there is a renewed interest in land consolidation in Estonia.²²⁷ 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 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

²²² DLG and Arcadis. (2001b): *Integrated drainage and land development pilot in Estonia*. Project brochure.

²²³ DLG and Arcadis. (2001a): *Integrated drainage and land development pilot in Estonia – Project completion report*, p. 13-14.

²²⁴ Jürgenson. E. (2014a): *Overview of land consolidation in Estonia*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.

²²⁵ Interview with Evelin Jürgenson in April 2014.

²²⁶ Email from Siim Maasikamäe in May 2014.

²²⁷ Interview with Siim Maasikamäe and Evelin Jürgenson in April 2014.

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.²²⁸ There are currently no plans to introduce land banking.

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.²²⁹ 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.²³⁰ The development of the land market, however, often leads to land fragmentation as the land purchased is not adjacent to the land already owned.²³¹ Fragmentation also continues through inheritance.²³²

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.²³³ In 2005, 24 percent of the total UAA was used through lease agreements. In 2012, 13 percent of the agricultural land was uncultivated.²³⁴

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.²³⁵ 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

²²⁸ Email from Evelin Jürgenson in May 2014.

²²⁹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

²³⁰ 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.

²³¹ 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.

²³² Parsova, V. and Kapostins, E. (2012): *Does land consolidation fit everywhere?* Paper from FIG Working Week in Rome, p. 2.

²³³ Email from Daiga Parsova in December 2012.

²³⁴ 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.

²³⁵ Danish Ministry of Food, Agriculture and Fisheries (1999): *Brief report on pilot project in land consolidation – Phase 2*.

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.²³⁶

A land consolidation measure was included in the SAPARD rural development programme from 2000 (measure 1.3: Re-parceling).²³⁷ 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.²³⁸

During recent years, Latvia has developed land consolidation legislation. The Law on Land Survey, adopted in September 2006, included land consolidation as a development task.²³⁹ The concept of the new Land Management Law, which was approved in 2010, includes land consolidation.²⁴⁰ 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 2015.²⁴¹ 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.²⁴² 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

²³⁶ Danish Ministry of Food, Agriculture and Fisheries (2002): *Land exchange project Gauja National Park Latvia – Completion report*.

²³⁷ Ministry of Agriculture (Latvia) (1999): *Rural development plan of the European Community support for agriculture and rural development in Latvia (SAPARD)*.

²³⁸ Interview with Daiga Parsova in April 2014.

²³⁹ Platonova, D. and Jankava, A. (2012): *Description of land fragmentation in Latvia and its prevention opportunities*. Latvia University of Agriculture.

²⁴⁰ Parsova, D and Platonova D. (2012): *Current policy developments in land management and land banking*. Powerpoint presentation for FAO / LANDnet workshop in Budapest.

²⁴¹ Interview with Daiga Parsova in April 2014.

²⁴² Interview with Kristine Sproge in April 2014.

and to combine land consolidation and local rural development.²⁴³ 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.²⁴⁴

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 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.²⁴⁵ 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.²⁴⁶ 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.²⁴⁷

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.

²⁴³ Interview with Daiga Parsova in April 2014.

²⁴⁴ Sproge, K. (2014): *Vision of land consolidation process in Latvia*. Powerpoint presentation for Baltic Land Consolidation Workshop in Riga in April 2014.

²⁴⁵ Interview with Daiga Parsova in April 2014.

²⁴⁶ Email from Kristine Sproge in May 2014.

²⁴⁷ Interview with Daiga Parsova in April 2014.

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.²⁴⁸ 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 UAA in 2005 was farmed on leased land.²⁴⁹ Land reform resulted in a high level of ownership fragmentation and a medium level of land use fragmentation.²⁵⁰

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.²⁵¹ 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.²⁵² 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.²⁵³ The 1994 Law on Agricultural Land included, as mentioned, few legal provisions on the voluntary

²⁴⁸ 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.

²⁴⁹ 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.

²⁵⁰ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

²⁵¹ 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*.

²⁵² Interview with Andras Ossko in June 2014.

²⁵³ Ossko, A. and Sebestyen, R. (2005): *Land consolidation in Hungary*. Paper prepared for FAO regional land consolidation workshop in Prague.

exchange of agricultural land between landowners, and the Hungarian Government supported 40 percent of the land transaction costs when land was consolidated.²⁵⁴

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.²⁵⁵ 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 2005.²⁵⁶ Furthermore, land consolidation was not included in the so-called 100 steps development programme of the Hungarian Government in 2005.²⁵⁷

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”.²⁵⁸ 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.^{259 260}

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.²⁶¹ Today, 25 percent of all agricultural land remains owned by the State.²⁶² 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

²⁵⁴ Flachner, Z. (2007a): *Land consolidation in Hungary: Lessons learned from the Bereg FAO pilot project*. Paper for FAO regional land consolidation workshop in Prague.

²⁵⁵ DLG. (2005c): *Technical assistance for land consolidation in Hungary (TALC) – Progress report for the period January – May 2005 and Project Completion Report*.

²⁵⁶ Interview with Andras Ossko in June 2014.

²⁵⁷ DLG. (2005c): *Technical assistance for land consolidation in Hungary (TALC) – Progress report for the period January – May 2005 and Project completion report*, p. 10.

²⁵⁸ 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.

²⁵⁹ Flachner, Z. (2007a): *Land consolidation in Hungary: Lessons learned from the Bereg FAO pilot project*. Paper for FAO regional land consolidation workshop in Prague.

²⁶⁰ Flachner, Z. (2008): *Participatory micro regional development in areas with high risk – The Bereg landscape – FAO TCP Project (TCP/HUN/3002) – Final report*. FAO.

²⁶¹ Sebestyen, R. (2004): *The National Land Fund*. Paper for FAO workshop on land banking, Tonder, Denmark.

²⁶² Interview with Andras Ossko in June 2014.

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.²⁶³ When NLF was established, the aim was also to be an important player in a land consolidation programme.²⁶⁴ 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 2014-2020.²⁶⁵

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 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.

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.²⁶⁶ 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-scale corporate commercial farms.²⁶⁷ Land reform resulted in excessive fragmentation of both landownership and land use.²⁶⁸ 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 2001-2002.²⁶⁹

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

²⁶³ 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.

²⁶⁴ 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*.

²⁶⁵ Interview with Andras Ossko and Agnes Dus in June 2014.

²⁶⁶ 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.

²⁶⁷ Blenesi Dima, A. and Rusu, M. (2006): *Farmland consolidation: Recent development in Romania*. Paper for FAO regional land consolidation workshop in Prague.

²⁶⁸ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

²⁶⁹ Rusu, M. *et al.* (2002): *Land fragmentation and land consolidation in the agricultural sector*. FAO.

consolidation pilots in two villages, Sighisoara and Odorheiu Secuiesc.²⁷⁰ 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 2005–2006.²⁷¹ 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.²⁷²

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 parcel exchanges under the current legislation.²⁷³ 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 2012.²⁷⁴ 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.²⁷⁵ However, the law has no provisions for a land consolidation instrument.²⁷⁶ Romania has not prepared a land consolidation strategy and there is no plan to do so.²⁷⁷

²⁷⁰ Blenesi Dima, A. and Rusu, M. (2006): *Farmland consolidation: Recent development in Romania*. Paper for FAO regional land consolidation workshop in Prague, p. 2.

²⁷¹ Eskildsen, K. *et al.* (2006): *Policy support for land consolidation – Final report (15 December 2005 – 15 November 2006)* (Europeaid/120518/D/SV/RO).

²⁷² *Ibid.*, p. 19–22.

²⁷³ Jansen, L.J.M. (2013): *Voluntary parcel exchanges in Romania*. Note on project in Abroad – periodical newsletter of Kadaster International March 2013, Netherlands.

²⁷⁴ 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.

²⁷⁵ 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>

²⁷⁶ Interview with Louisa J.M. Jansen in October 2014.

²⁷⁷ Interview with Ileana Spiroiu in June 2014.

The RDP for 2014-2020 provides for the possibility of funding for a land consolidation support measure.²⁷⁸

Some 1.6 million ha, or 12 percent of the UAA, remain in state and municipal ownership and are leased out to private farms.²⁷⁹ 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.²⁸⁰

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 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.²⁸¹

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.²⁸² 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.²⁸³ Referenda for the initiation of land consolidation projects were carried out in almost 300 villages before the process was stopped by the communist government.²⁸⁴

The land restitution process after 1991 resulted in the re-establishment of a large number of small family farms.²⁸⁵ 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,

²⁷⁸ Ministry of Agriculture and Rural Development (2014): *National Rural Development Programme for the 2014 – 2020 period*, p. 188-189.

²⁷⁹ 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.

²⁸⁰ 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.

²⁸¹ Interview with Louisa J.M. Jansen in October 2014.

²⁸² Kopeva, D. et al. (2002): *Land fragmentation and land consolidation in the agricultural sector – A case study from Bulgaria*. FAO, p. 63-65.

²⁸³ Email from Vladimir Evtimov in August 2014.

²⁸⁴ Email from Kiril Stoyanov in July 2014.

²⁸⁵ 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.

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.²⁸⁶ This has led to a massive co-ownership situation in Bulgaria where many parcels have numerous co-owners.²⁸⁷ 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. Land reform resulted in excessive fragmentation of both landownership and land use.²⁸⁸

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 2001-2002.²⁸⁹

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.²⁹⁰ 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.²⁹¹

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.²⁹² 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.²⁹³ A re-allotment plan was prepared for each pilot but was never implemented and registered because of the absence of legal framework for land

²⁸⁶ Email from Vladimir Evtimov in August 2014.

²⁸⁷ Vranken, L. *et al.* (2011): *Property rights imperfections and asset allocation: Co-ownership in Bulgaria*. Journal of Comparative Economics 39 (2011), p. 159-163.

²⁸⁸ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

²⁸⁹ Kopeva, D. *et al.* (2002): *Land fragmentation and land consolidation in the agricultural sector – A case study from Bulgaria*. FAO.

²⁹⁰ Kasabov, M. (2005): *Land consolidation and territorial organization in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.

²⁹¹ Email from Kiril Stoyanov in June 2014.

²⁹² Georgieva, A. (2005): *Land consolidation models: The World Bank experience in Bulgaria*. Paper for 4CLI land consolidation workshop in Budapest.

²⁹³ Kasabov, M. (2005): *Land consolidation and territorial organization in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.

consolidation. A land consolidation law was drafted as an outcome of the project but the draft was politically rejected.²⁹⁴

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.²⁹⁵ 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.²⁹⁶ 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.²⁹⁷ 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.²⁹⁸ 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 May 2008.²⁹⁹ 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

²⁹⁴ Interview with Kiril Stoyanov in June 2014.

²⁹⁵ Stoyanov, K. (2006): *New approaches for land consolidation in Bulgaria*. Paper for FAO regional land consolidation workshop in Prague.

²⁹⁶ Ministry of Agriculture and Food & DLG (2010): *Integrated land consolidation project village of Katunet, Lovetch region, Republic of Bulgaria*. Project brochure.

²⁹⁷ Email from Kiril Stoyanov in June 2014.

²⁹⁸ Interview with Radoslav Manolov in June 2014.

²⁹⁹ 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.

Ministry for approval.³⁰⁰ 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.³⁰¹ 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 2007-2013.³⁰² 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 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.³⁰³ 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.³⁰⁴ 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 2020.³⁰⁵

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.³⁰⁶ Between 2001 and the end of 2012, a total of 32 000 ha was privatized through sale of state land through tenders.³⁰⁷ Until now, state and municipal agricultural land has not been included in the voluntary land

³⁰⁰ 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.

³⁰¹ Interview with Kiril Stoyanov in June 2014.

³⁰² 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.

³⁰³ Interview with Radoslav Manolov in June 2014.

³⁰⁴ Email from Kiril Stoyanov in September 2014.

³⁰⁵ Interview with Kiril Stoyanov in June 2014.

³⁰⁶ 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.

³⁰⁷ Email from Kiril Stoyanov in January 2013.

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 allow also the small-scale farmers and landowners to benefit from the re-allotment process.

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 1836.³⁰⁸ In 1902, the Croatian parliament adopted a Land Consolidation Law and until 1950, around 400 000 ha were consolidated³⁰⁹

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.³¹⁰

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

³⁰⁸ 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.

³⁰⁹ 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.

³¹⁰ 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.

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.³¹¹ 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 eight parcels.³¹² Abandoned agricultural land is a widespread phenomenon and more than one-third of the agricultural land is reported to be unused.³¹³ 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.³¹⁴ 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.³¹⁵ 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.³¹⁶ 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.³¹⁷ 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.

³¹¹ Ministry of Agriculture (2009): *Croatian Agriculture*. Information brochure.

³¹² 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.

³¹³ Nordic Consulting Group (NCG). (2009): *Pilot project on land consolidation in Croatia – Final report*, p. 7.

³¹⁴ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

³¹⁵ Budanko Penavic, A. and Pupacic, M. (2006): *Land consolidation in Croatia*. Paper for FAO regional land consolidation workshop in Prague.

³¹⁶ Nordic Consulting Group (NCG). (2009): *Pilot project on land consolidation in Croatia – Final report*.

³¹⁷ 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).³¹⁸ 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 2008.³¹⁹ 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 behalf of the Government and is expected to be the future lead agency.³²⁰ 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

³¹⁸ DLG. (2011): *Guiding the land market by land banking*. Brochure on land banking.

³¹⁹ Nordic Consulting Group (NCG). (2009): *Pilot project on land consolidation in Croatia – Final report*, p. 17-20.

³²⁰ Interview with Blazenka Micevic in June 2014.

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.³²¹

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.³²² 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 preemptive 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.³²³

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 5.6), Slovenia (section 4.2), Serbia (section 4.7) and Bosnia and Herzegovina (section 5.9).³²⁴ 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

³²¹ Ibid.

³²² Email from Blazenka Micevic in September 2014.

³²³ Interview with Blazenka Micevic in June 2014.

³²⁴ Ministry of Agriculture, Forestry and Water Economy (2012): *National strategy on agricultural land consolidation in the Republic of Macedonia for the period 2012-2020*.

farms when Yugoslavia broke up in 1991.³²⁵ 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.³²⁶ 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.³²⁷ 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.³²⁸

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.³²⁹ 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 2012.³³⁰

³²⁵ Noev, N. *et al.* (2003): *The development of land rental markets in Bulgaria and the former Yugoslav Republic of Macedonia*, p. 72.

³²⁶ 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.

³²⁷ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

³²⁸ 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*.

³²⁹ DLG and SNV. (2012b): *STIMERALD project - Piloting land consolidation in Konce*.

³³⁰ Ministry of Agriculture, Forestry and Water Economy (2012): *National strategy on agricultural land consolidation in the Republic of Macedonia for the period 2012-2020*.

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.³³¹

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 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.³³² 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.

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.³³³

³³¹ Law on consolidation of agricultural land adopted in December 2013, § 10.

³³² Email from Kiril Georgievski in September 2014.

³³³ 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.

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.³³⁴ 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 still exists to a large degree.³³⁵ Land fragmentation continues through inheritance³³⁶ and as a result of uncontrolled construction in agricultural land.³³⁷

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.³³⁸ 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.³³⁹ 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 ALUP project did not include in the

³³⁴ Ministry of Agriculture, Forestry and Rural Development. (2009): *Agriculture and Rural Development Plan 2009-13*, p. 25.

³³⁵ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

³³⁶ Stanfield, D. *et al.* (2004): *An assessment of property rights in Kosovo*. USAID, p. 49-50.

³³⁷ Email from Ruitger Kuiper in August 2014.

³³⁸ Email from Ruitger Kuiper in August 2014.

³³⁹ GFA Consulting Group *et al.* (2008): *Agricultural land utilisation project – Project completion report*, p. 36-46.

budget any funds for implementation in the field, including for registration of land transactions.³⁴⁰

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.³⁴¹ 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.³⁴²

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.³⁴³ 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.³⁴⁴ 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 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.³⁴⁵

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

³⁴⁰ Email from Niels Otto Haldrup in August 2014.

³⁴¹ GFA Consulting Group *et al.* (2012): *Further support to land use – Final project completion report*, p. 20-21.

³⁴² Interview with Idriz Gashi in June 2014.

³⁴³ Email from Idriz Gashi in August 2014.

³⁴⁴ Law No. 04/L-040 on Land Regulation adopted in February 2012, § 7.

³⁴⁵ Ministry of Agriculture, Forestry and Rural Development (2010): *Land consolidation strategy 2010 – 2020*.

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.³⁴⁶

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.

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 1981.³⁴⁷ 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.

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 Srpska, 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.³⁴⁸

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

³⁴⁶ Email from Idriz Gashi in August 2014.

³⁴⁷ Mahir, E. *et al.* (2014): *Land consolidation strategy framework paper*. Unpublished project document. FAO, p. 19-20.

³⁴⁸ *Ibid.*, p. 37.

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.³⁴⁹

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”.³⁵⁰ 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.³⁵¹ The strategy framework paper may be used in the future by the entities as the basis for the preparation of land consolidation strategies.

The initial stage of the pilot projects identified a total of 295 landowners with 2 285 land parcels in Dracevo pilot village³⁵² and a total of 120 landowners with 700 land parcels in Trncina village.³⁵³ 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.³⁵⁴ 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

³⁴⁹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

³⁵⁰ FAO (2010): *Support to the preparation of entity land consolidation strategies and land consolidation pilot projects* (TCP/BIH/3301). Unpublished project document.

³⁵¹ Mahir, E. et al. (2014): *Land consolidation strategy framework paper*. Unpublished project document. FAO.

³⁵² Drinjak, R. et al. (2013): *Dracevo land consolidation pilot project – Baseline report*. Unpublished project document. FAO.

³⁵³ Bukvic, J. et al. (2013): *Ravno land consolidation pilot project – Baseline report*. Unpublished project document. FAO.

³⁵⁴ 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.

plans were prepared through a participatory process with the local stakeholders to embed the re-allotment planning in a local rural development context.^{355 356}

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.

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 3.3 parcels per holding.³⁵⁷ 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.³⁵⁸ Land reform resulted in excessive fragmentation of both landownership and land use.³⁵⁹

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.³⁶⁰ 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”.³⁶¹ Land consolidation pilots were implemented in three villages in Terbuf

³⁵⁵ Kaugure, L. and Pijunovic, V. (2014a): *Community development plan for Trncina (Ravno) pilot area*. Unpublished project document.

³⁵⁶ Pijunovic, V. (2014b): *Community development plan for Dracevo pilot area*. Unpublished project document.

³⁵⁷ Cunga, A. and Swinnen J. (1997): *Agricultural privatization, land reform and farm restructuring in Albania*. In Swinnen, J. *et al.* (ed.): *Agricultural Privatisation, land Reform and Farm Restructuring in Central and Eastern Europe*. Ashgate, p. 7.

³⁵⁸ Deininger, K. *et al.* (2012): *Land fragmentation, cropland abandonment, and land market operation in Albania*. The World Bank, p. 2.

³⁵⁹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

³⁶⁰ World Bank (2008): *Agriculture services project – Implementation completion and results report*, p. 21-22.

³⁶¹ FAO (2010): *Support to the preparation of a national land consolidation strategy and a land consolidation pilot project* (TCP/ALB/3301). Unpublished project document.

Municipality in the Lushnje region. A draft National Land Consolidation Strategy was prepared and training and capacity development provided.



Family farming in Terbuf pilot municipality in Albania (February 2012).

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.³⁶² 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 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.

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.³⁶³ The FAO project assisted in the preparation of a community development plan for Terbuf

³⁶² Sallaku, F. (2011): *Land consolidation baseline survey in Terbuf pilot municipality*. Unpublished project document. FAO.

³⁶³ 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.

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 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.³⁶⁴ 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”.^{365 366}

The Ministry of Agriculture, Rural Development and Water Administration (MARDWA) is expected to be the lead agency for a future national land consolidation programme.³⁶⁷ A next step will be to establish a small land consolidation unit in the Ministry.³⁶⁸ 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.³⁶⁹ 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.³⁷⁰ 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 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.³⁷¹ Hence, little of the existing

³⁶⁴ Ministry of Agriculture, Food and Consumer Protection (2013): *Albanian national land consolidation strategy* (unpublished final draft version).

³⁶⁵ Interview with Irfan Tarelli in May 2014.

³⁶⁶ 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).

³⁶⁷ Ministry of Agriculture, Food and Consumer Protection (2013): *Albanian national land consolidation strategy* (unpublished final draft version).

³⁶⁸ Interview with Irfan Tarelli in May 2014.

³⁶⁹ Ministry of Agriculture, Food and Consumer Protection (2013): *Albanian national land consolidation strategy* (unpublished final draft version), p. 15-16.

³⁷⁰ 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.

³⁷¹ 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.

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 projects³⁷² However, the timeframe is uncertain.

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.³⁷³ 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.³⁷⁴ Land reform resulted in excessive fragmentation of landownership and medium-high fragmentation of land use.³⁷⁵ 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 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.³⁷⁶ 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

³⁷² Ministry of Agriculture, Food and Consumer Protection. (2013): *Albanian national land consolidation strategy* (unpublished final draft version), p. 25-26.

³⁷³ Consulting and Credit in Agriculture (CCA). (2003): *Agricultural land market in Moldova – Baseline study*. USAID Land Privatization Project, p. 7.

³⁷⁴ 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.

³⁷⁵ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

³⁷⁶ 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.

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 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.³⁷⁷

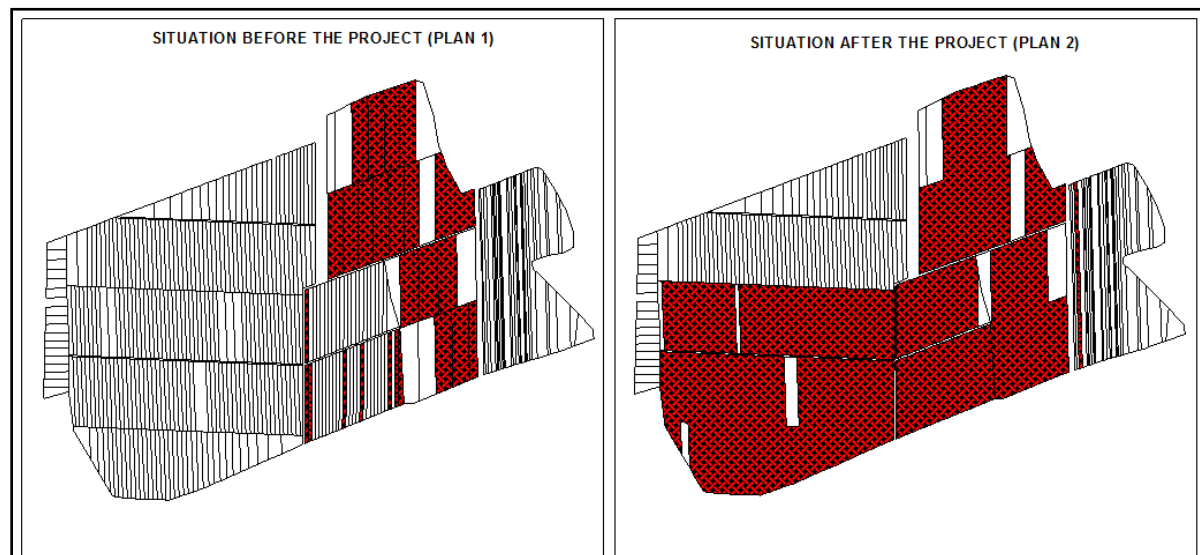


Figure 4: Example from Bolduresti land consolidation pilot project. Before the pilot project started, a local farmer wanted to acquire about 30 hectares in order to establish a new orchard. Some 124 individual owners were identified in the interest area. The farmer managed to acquire an area of about 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.³⁷⁸

An “Impact assessment of the land re-parceling pilot project”, funded by the World Bank and Sida, was carried out in 2011.³⁷⁹ 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.

³⁷⁷ World Bank (2014): *Moldova Land Governance Assessment Framework (LGAF) – Final report*, p. 9.

³⁷⁸ 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).

³⁷⁹ Agrex. (2011): *Impact assessment of the land re-parcelling pilot project in 6 villages*. Rural Investment and Services Project II, World Bank.

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 without a legal framework for land consolidation and thus used the normal land transaction procedures.

In 2010, the Government requested FAO to support the preparation of a National Land Consolidation Strategy.³⁸⁰ 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.³⁸¹ 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 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.³⁸²

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.³⁸³

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.³⁸⁴ 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.³⁸⁵

At present, Moldova does not have a land consolidation programme despite the considerable progress made during 2007-2011. A recent assessment has concluded

³⁸⁰ 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.

³⁸¹ Government of the Republic of Moldova (2011): *National strategy for land consolidation* (unpublished final draft version).

³⁸² Interview with Angela Dogotari in May 2014.

³⁸³ Government of the Republic of Moldova (2011): *National strategy for land consolidation* (unpublished final draft version), p. 15.

³⁸⁴ Interview with Angela Dogotari in May 2014.

³⁸⁵ Interview with Angela Dogotari and Maxim Gorgan in May 2014.

that the problem with land fragmentation cannot be solved within a reasonable time only through market mechanisms.³⁸⁶ 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 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.³⁸⁷

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.³⁸⁸ 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.³⁸⁹

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.³⁹⁰ 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”.³⁹¹ A

³⁸⁶ World Bank (2014a): *Moldova Land Governance Assessment Framework (LGAF) – Final report*, p. 82.

³⁸⁷ 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.

³⁸⁸ 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.

³⁸⁹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

³⁹⁰ Chluba, K. and Schmidt-Kallert, E. (2001): *Strategy for land consolidation and improved land management in Armenia – Pre-Feasibility Study*. FAO.

³⁹¹ FAO (2004b): *Support to the preparation and implementation of land consolidation and improved land management schemes* (TCP/ARM/3004). Unpublished project document.

land consolidation pilot was implemented in Nor Erznka village, a draft National Land Consolidation Strategy was prepared, and training and capacity development was provided.³⁹² 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.

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

³⁹² Muradyan, A. and Pashayan, M. (2008): *Land consolidation pilot project in Armenia*. Paper for FAO regional land consolidation workshop in Prague.

project.³⁹³ 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.³⁹⁴ 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.³⁹⁵ This contributed to the good results of the pilot.

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.³⁹⁶ 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.³⁹⁷ At the other end of the scale, the ten largest agro-holdings (i.e. corporate farms) control about 2.8 million ha through lease agreements.³⁹⁸ The level of fragmentation of both ownership and land use in agricultural land is low.³⁹⁹

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 2016.⁴⁰⁰ Hence, there is still no formal agricultural land market. A Law

³⁹³ 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.

³⁹⁴ Email from Narek Grigoryan in May 2014.

³⁹⁵ Muradyan, A. and Pashayan, M. (2008): *Land consolidation pilot project in Armenia*. Paper for FAO regional land consolidation workshop in Prague.

³⁹⁶ Lerman, Z. et al. (2007): *Rethinking agricultural reform in Ukraine*. IAMO and FAO, p. 15-29.

³⁹⁷ Ibid., p. 69-71.

³⁹⁸ 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.

³⁹⁹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁴⁰⁰ World Bank. (2014b): *Application of the Land Governance Assessment Framework in Ukraine – Synthesis Report*, p. 4-6.

on Agricultural Land Markets has been drafted but not yet adopted. It seems likely that the moratorium will be extended after 2016.⁴⁰¹ 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.⁴⁰² 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.⁴⁰³ 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).

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.⁴⁰⁴ The project implementation has been delayed due to the uncertain political situation in Ukraine.⁴⁰⁵

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.⁴⁰⁶

⁴⁰¹ Interview with Willemien van Asselt in September 2014.

⁴⁰² Delegation of the European Union to Ukraine (2013): *Assistance in development of open and transparent land market in Ukraine*. Twinning fiche, p. 10.

⁴⁰³ DLG (2013): *CATAPULD Completion Report*.

⁴⁰⁴ Delegation of the European Union to Ukraine. (2013): *Assistance in development of open and transparent land market in Ukraine*. Twinning fiche, p. 13-14.

⁴⁰⁵ Interview with Willemien van Asselt in September 2014.

⁴⁰⁶ Email from Olga Zhovtonog in September 2014.

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.⁴⁰⁷ 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.

5.14 Discussion and lessons learned

This chapter 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 chapter 2. Estonia, Hungary, Bulgaria and Croatia already had land 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 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.

⁴⁰⁷ World Bank. (2014b): *Application of the Land Governance Assessment Framework in Ukraine – Synthesis Report*, p. 4.

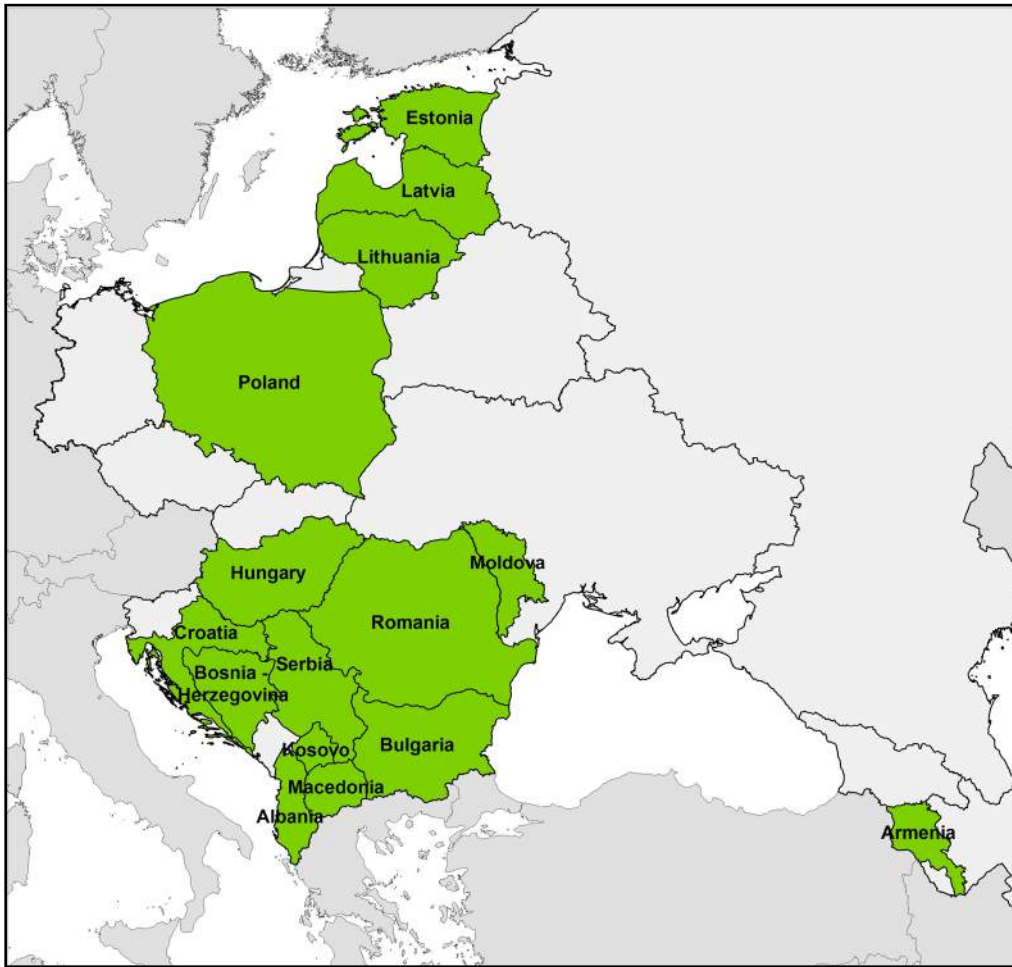


Figure 5: Locations where land consolidation pilot projects have been implemented with international technical assistance.

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.

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 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 6 illustrates where land consolidation strategies have been developed but not necessarily adopted politically.

Chapter 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 chapter 2 are taken into consideration. This is illustrated in table 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.

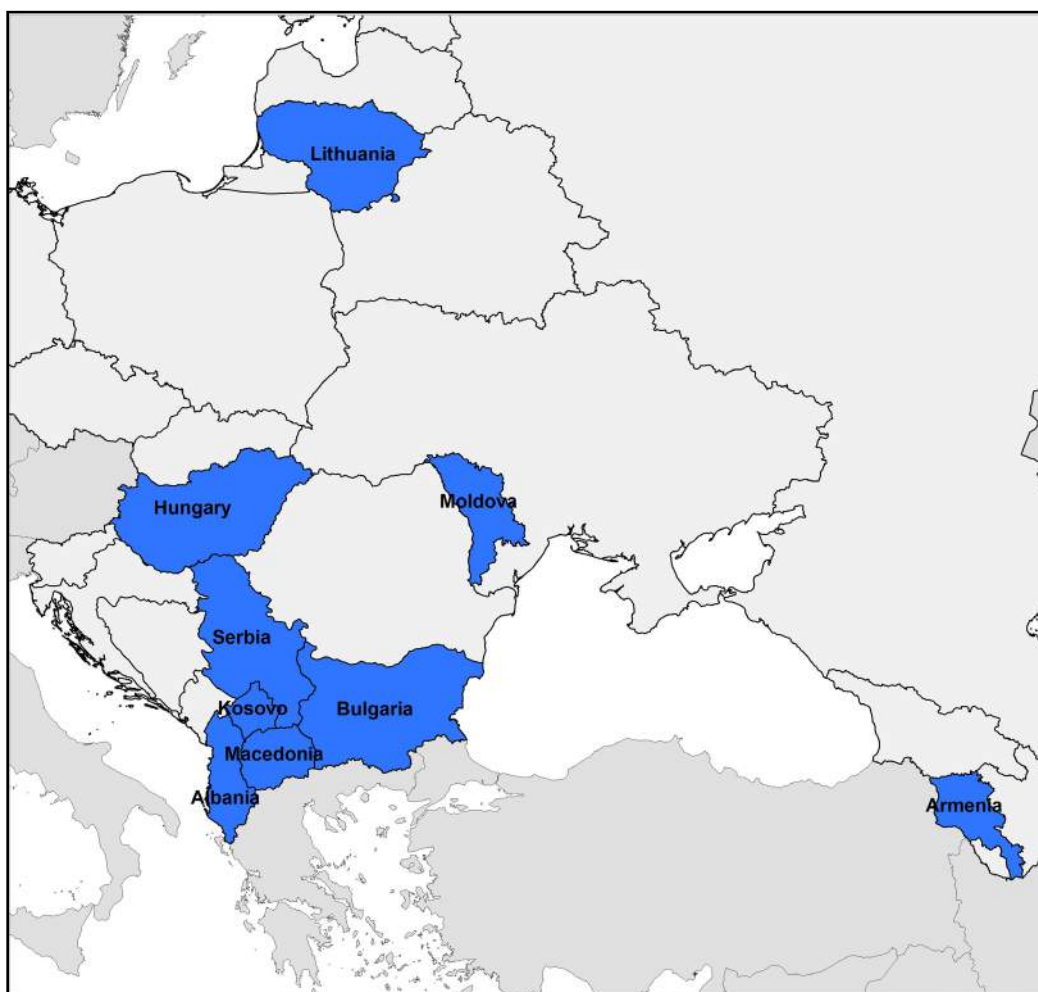


Figure 6: The development of land consolidation strategies (but not necessarily their adoption).

	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 2: Progress in locations close to having an operational national land consolidation programme (December 2014).

Table 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.

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 chapter 7).

The organizational aspects of land consolidation and land banking instruments are also important when moving from pilots to programmes. As discussed in section 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 5.11).⁴⁰⁸

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 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 chapter 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

⁴⁰⁸ World Bank (2014a): *Moldova Land Governance Assessment Framework (LGAF) – Final Report*, p. 82.

LANDNET workshops (see section 7.1).⁴⁰⁹ 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 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 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 chapter 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.

⁴⁰⁹ 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/landconsce/en/>

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.

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.⁴¹⁰ In the 1980s, around 90 percent of the agricultural land remained owned by private family farms.⁴¹¹

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 used.⁴¹² 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.⁴¹³

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.⁴¹⁴

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.⁴¹⁵ 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

⁴¹⁰ Email from Irina Vukcevic in September 2014.

⁴¹¹ 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.

⁴¹² Montenegro Statistical Office. (2011): *Agricultural Census 2010 – Structure of Agricultural Holdings*, p. 41.

⁴¹³ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁴¹⁴ Ministry of Agriculture, Forestry and Water Management (2006): *Montenegro's agriculture and European Union – Agriculture and rural development strategy*, p. 100.

⁴¹⁵ Ministry of Agriculture and Rural Development (2014): *Strategy for development of agriculture and rural areas – Draft version 3.0 July 2014*, p. 45.

agricultural land from uncontrolled urban development.⁴¹⁶ There is currently no short-term expectation of a national land consolidation programme in Montenegro.

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.⁴¹⁷ 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 that equalled ten times the land tax.⁴¹⁸ 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.⁴¹⁹

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 5.12).⁴²⁰ 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.⁴²¹ However, the efforts were focused mainly on the development of a digital soil atlas and not on land consolidation as such.⁴²²

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.⁴²³

⁴¹⁶ Email from Irina Vukcevic in September 2014.

⁴¹⁷ Müller, W. *et al.* (2001): *Strategy for land consolidation and improved land management in Georgia – Pre-feasibility study*. FAO, p. 5-7.

⁴¹⁸ Email from David Egiashvili in July 2014.

⁴¹⁹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁴²⁰ Müller, W. *et al.* (2001): *Strategy for land consolidation and improved land management in Georgia – Pre-feasibility study*. FAO.

⁴²¹ Egiashvili, D. (2005): *Aspects of land consolidation in Georgia*. Paper for FAO regional land consolidation workshop in Prague.

⁴²² Interview with Joseph Salukvadze in June 2014.

⁴²³ Interview with David Egiashvili in June 2014.

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 to farm the land themselves.⁴²⁴ Land reform resulted in excessive fragmentation of both landownership and land use.⁴²⁵

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.⁴²⁶

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.⁴²⁷ 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.⁴²⁸

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 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.⁴²⁹ 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

⁴²⁴ Dudwick, N. et al. (2005): *A stocktaking of land reform and farm restructuring in Bulgaria, Moldova, Azerbaijan and Kazakhstan*, p. 30.

⁴²⁵ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁴²⁶ 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.

⁴²⁷ 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.

⁴²⁸ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁴²⁹ Overchuk, A., Hansen, L. and Hansen, N. (2005): *Developing farm redistribution model in Russia*. Paper for FAO regional land consolidation workshop in Prague.

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: 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.⁴³⁰ 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.⁴³¹

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.⁴³² 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.

6.5 Belarus

Belarus still does not allow private ownership of agricultural land and all land remains state-owned.⁴³³ The Law on Landownership adopted in 1993 allowed private ownership of only household plots of up to one ha.⁴³⁴ 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.⁴³⁵ 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.⁴³⁶ Thus, the level of fragmentation of both ownership and land use in agricultural land is very low.⁴³⁷

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.⁴³⁸

⁴³⁰ Interview with Lennart Hansen in September 2014.

⁴³¹ Interview with Alexander Sagaydak in August 2014.

⁴³² Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 340.

⁴³³ 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.

⁴³⁴ Lerman, Z. et al. (2007): *Rethinking agricultural reform in Ukraine*. IAMO and FAO, p. 70.

⁴³⁵ Giovarelli, R. and Bledsoe, D. (2001): *Land Reform in Eastern Europe*. FAO, p. 7-12.

⁴³⁶ 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.

⁴³⁷ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 339.

⁴³⁸ Sahlin, Å. And Kalyta, M. (2008.): *Development of real property market in the Republic of Belarus*. SIDA Evaluation 2008:19, p. 7-8.

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.⁴³⁹

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 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 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.

⁴³⁹ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 340.

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.⁴⁴⁰ 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.⁴⁴¹ Shortly after FAO was founded in 1945, it had started to work on land fragmentation and land consolidation.⁴⁴² 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 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 Tønder 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

⁴⁴⁰ 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.

⁴⁴¹ Proceedings from FAO and LANDNET workshops are available from: <http://www.fao.org/europe/activities/land-tenure/landconsce/en/>

⁴⁴² Binns, B. (1950): *The consolidation of fragmented agricultural holdings*. FAO.

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 2005-2007.⁴⁴³ 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.⁴⁴⁴

⁴⁴³ Van der Jagt, P. *et al.* (edt.). (2007): *Far Land Near Future*. FARLAND.

⁴⁴⁴ 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.

8. Critique of state-led land consolidation programmes in Central and Eastern Europe

As mentioned in chapter 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 chapters 4, 5 and 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.⁴⁴⁵ In her understanding, physical fragmentation has basically the same meaning as land fragmentation in the classical Western European tradition.⁴⁴⁶ 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 7.1). Sabates-Wheeler recognized that the new land consolidation approaches, as they appear in 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

⁴⁴⁵ 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.

⁴⁴⁶ Hartvigsen, M. (2013b): *Land reform and land fragmentation in Central and Eastern Europe*. Land Use Policy 36 (2014), p. 336.

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.⁴⁴⁷

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.⁴⁴⁸ 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.⁴⁴⁹ 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.⁴⁵⁰ 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.⁴⁵¹ 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 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.⁴⁵² 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.

⁴⁴⁷ 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.

⁴⁴⁸ Van Dijk, T. (2003): *Dealing with Central European land fragmentation – A critical assessment on the use of Western European instruments*. Eburon.

⁴⁴⁹ Van Dijk, T. (2006): *Complications for traditional land consolidation in Central Europe*. Geoforum 38 (2007), 505 – 511.

⁴⁵⁰ Ibid., p. 507.

⁴⁵¹ 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.

⁴⁵² 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.

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.”⁴⁵³ 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”.⁴⁵⁴ 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 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 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.

⁴⁵³ 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.

⁴⁵⁴ *Ibid.*, p. 71.

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.⁴⁵⁵ 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 landownership and land use. The analysis in chapter 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 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 chapter 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 3.2). As discussed in sections 4.8 and 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 chapters 4 and 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

⁴⁵⁵ Van Dijk, T. (2006): *Complications for traditional land consolidation in Central Europe*. *Geoforum* 38 (2007), p. 509.

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 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 Chapter 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 5.10). Many other land consolidation pilots (see chapter 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.

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 chapters 4, 5 and 6, we can now verify the initial categorization shown in table 1 (see chapter 2). The status of development of land consolidation programmes is displayed in figure 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.

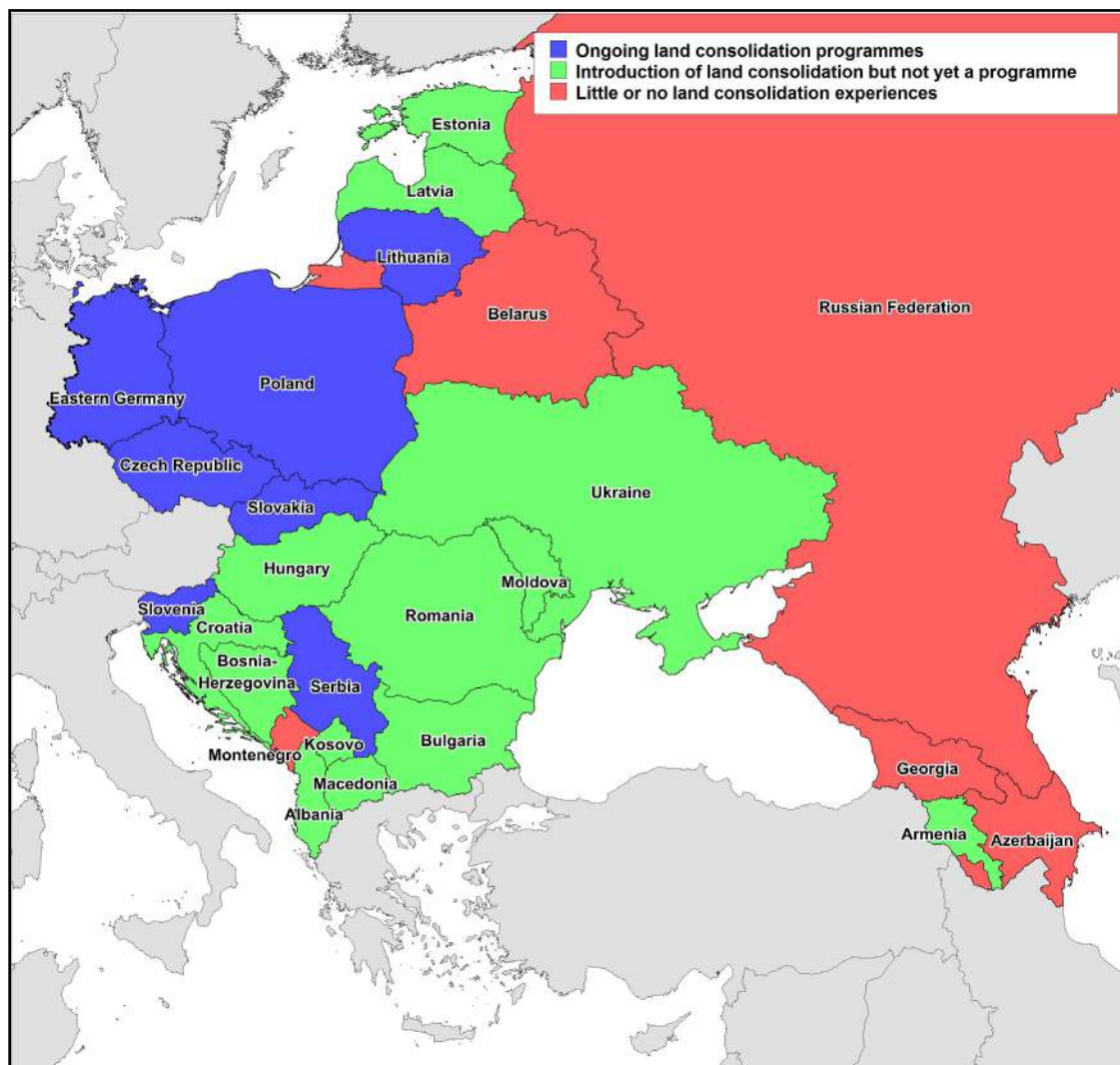


Figure 7: Status of the development of land consolidation in Central and Eastern Europe shown in three categories (October 2014).

In addition, we are now also able to further assess the perspectives among the second category. In figure 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).

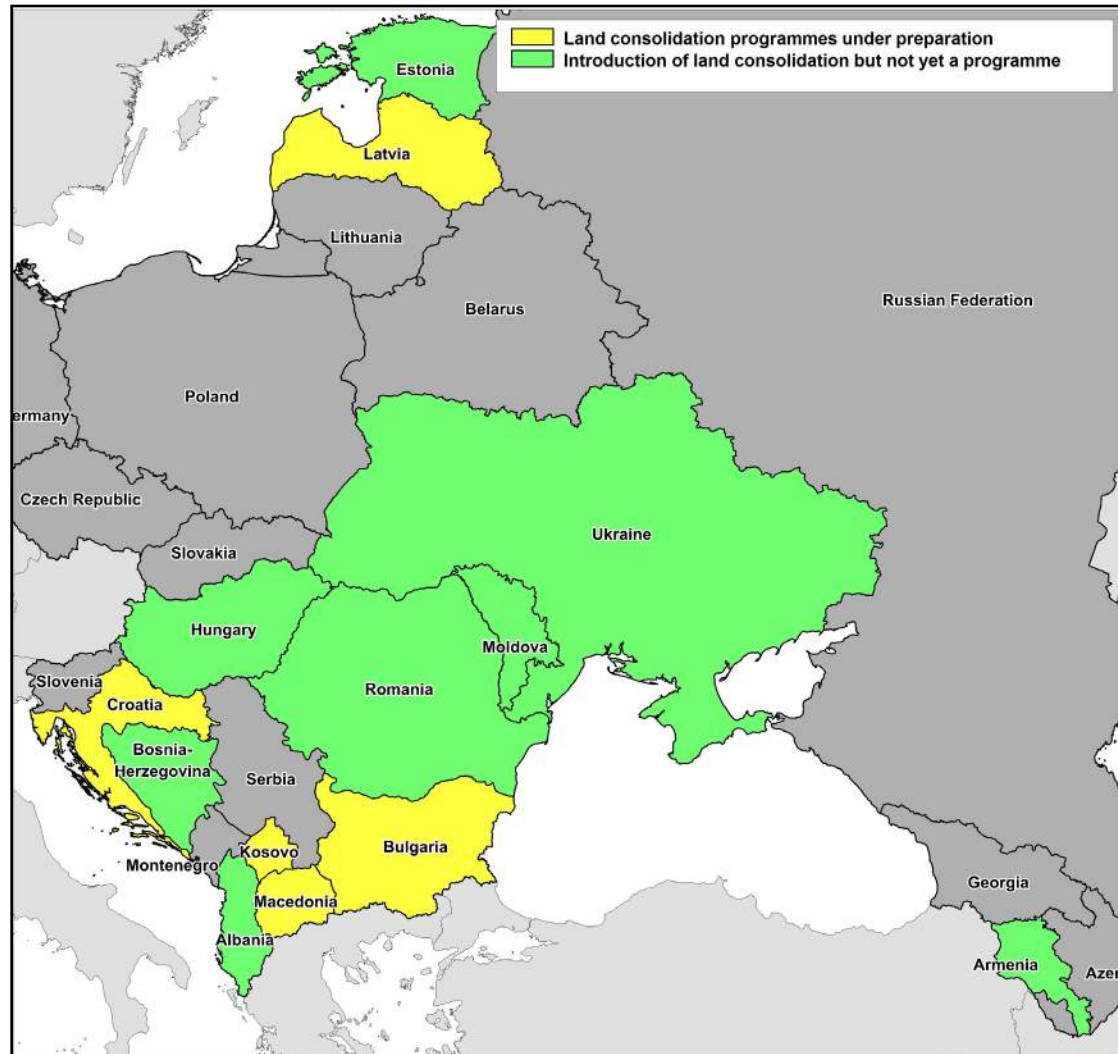


Figure 8: Status of the development of land consolidation in Central and Eastern Europe. In five cases, operational programmes could be expected within the near future.

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 2 (see section 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.

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 chapter 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”.⁴⁵⁶ 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.

⁴⁵⁶ 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 4.8, 5.14 and chapter 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 chapter 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 4.8, 5.14 and 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.

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Annex 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). 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 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). 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>
6) Introduction of land consolidation (year and description):	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).
7) Land Consolidation lead agency and organization of the work:	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 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).
8) Background for introduction of land consolidation:	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).
9) Main objectives of land consolidation:	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).
10) Legal framework for land consolidation:	The legal framework for land consolidation was adopted as chapter IX in the Law on Land 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). 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.
11) Land consolidation approach (e.g. voluntary – compulsory):	Land consolidation in Lithuania is completely voluntary. 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 <i>et al.</i> 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).
12) Length of projects:	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).
13) License for land consolidation works:	License system for land consolidation works. In 2014, 114 experts had received license for land consolidation works (Augutiene interview May 2014).
14) Funding sources:	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. 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). It is planned to continue funding under the RDP 2014-20. All costs are covered for the beneficiaries.
15) Impact on nature and environment:	An environmental impact assessment (EIA) is conducted as part of the land consolidation procedure (Pasakarnis <i>et al.</i> 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).
16) Integration of land consolidation with local rural development measures and initiatives:	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 <i>et al.</i> 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).
17) Land consolidation used as a tool for non-agricultural projects (e.g. infrastructure and nature- and environmental restoration):	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 in Natura 2000 areas. This is limiting the use of the land consolidation instrument for nature and environmental restoration (Pasakarnis email May 2014).
18) Available state agricultural land:	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.
19) Involvement of land banking in land consolidation:	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

	<p>land in the projects areas. This was, however, not possible according to the legislation at the time (Pasakarnis <i>et al.</i> 2012, 705). 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>
20) Volume and budget of national land consolidation programmes (including development):	<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.</p> <p>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>
21) International technical assistance to land consolidation (description of projects and outcome):	<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 project provided technical assistance to the management of state agricultural land including the linkage to land consolidation (BVVG 2004). • 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

	<p>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).</p> <ul style="list-style-type: none"> • 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 project</i> during 2010-12. The project was funded by the European Commission under the Interreg IV C programme.
22) Current plans for changes in approach, objective, funding etc.):	There are currently no plans for substantial changes (Petkevicius interview April 2014).
23) List of references:	<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 symposium on modern land consolidation, Volvic, France, September 2004. • Daugaliene, V. 2007. Legal Framework of Land Management in Lithuania after 1990. Paper and powerpoint presentation for UNECE WPLA workshop in Munich, May 2007.

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	<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. <i>et al.</i> 2012. Rural development and challenges establishing sustainable land use in Eastern European countries. <i>Land Use Policy</i> 30 (2013), 703-710. • Pasakarnis, G. <i>et al.</i> 2013. Factors Influencing Land Consolidation Success: Lessons Learned in Lithuania. In Hepperle, E. <i>et al.</i> (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 <i>et al.</i> (Edt.). 2007. <i>FARLAND – Near Future</i>.
24) Assessment / remarks:	<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.</p> <p>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>

Revision date: 07-09-2014 Final

Annex 2. Key persons and conducted interviews

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		Review and

	Landgesellschaft Sachen-Anhalt		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 Knezevic, 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 Geodesy and Geoinformatics	9 July 2014 / Skype	Review and comments by email in July 2014
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
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 Rural Development (ACSA)	14 May 2014 / Skype	Review and comments by 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	
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

