Learning, Innovation and Inclusive Development

New perspectives on economic development strategy and development aid

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Preface

In August 2011 the Globelics Secretariat was formed at Aalborg University with the support of the Swedish Development Agency (SIDA). Bengt-Åke Lundvall serves as the General Secretary while Björn Johnson, Birgitte Gregersen, Rasmus Lema and Allan Dahl Andersen are part-time employed in the Secretariat. The administrative coordination is taken care of by Dorte Baymler and Gro Stengaard Villumsen.

In the application for the grant from SIDA it was promised that the Secretariat would take responsibility for the production of an Annual Globelics Thematic Report as a follow up to the annual conference. The report was to cover a theme that would be highly relevant for developing countries and discussed in the Globelics community. This present Thematic Report has been edited by Björn Johnson and Allan Dahl Andersen of the Globelics Secretariat. Judith Sutz, Bengt-Åke Lundvall, Leticia Antunes Nogueira, and Tadeu Fernando Nogueira also contributed to the report. Furthermore, comments on an earlier version of the report were received from Susan Cozzens, Adrian Ely, Rasigan Maharajh and Rodrigo Arocena. We thank all contributors and commentators for their support.

The Thematic Report is intended to inspire future Globelics research as well as practical action. It reflects the content of the many papers on inclusive development that have been presented at Globelics conferences and input from Globelics experts on the theme. But the secretariat takes final responsibility for the production and content of the report.

It should be underlined that the report is not intended to give detailed and specific advice to donor and development organisations about how to conduct development aid and how to design development strategies. The intention is, more modestly, to give practitioners insights into the scholarly discussion about inclusive development by referring to relations between inclusion and innovation. If this inspires more thoughtful and adequate practical action, the report will have served its purpose.

General Secretary, Bengt-Åke Lundvall

Contents

Executive summary

This report is the first of a planned series of annual Globelics thematic reports. The theme of the present report is Inclusive Innovation Systems and Economic Development. It has been edited by Björn Johnson and Allan Dahl Andersen from the Globelics Secretariat on the basis of contributions by Judith Sutz, Bengt-Åke Lundvall, Leticia Antunes Nogueira and Tadeu Fernando Nogueira.

Introduction

1. The concepts of inclusive innovation and inclusive development have recently become widely used in international organisations such as the World Bank and the United Nations. The concepts increasingly appear in documents produced by donor organisations such as IDRC (Canada), Sida (Sweden), Danida (Denmark) and Norida (Norway).

2. In the report we note that it is a paradox that donor organisations and international cooperation organisations give stronger emphasis to inclusion in the current context. Not only has the recent financial crisis increased inequality and resulted in more serious poverty in the most developed countries, including the US. There is also a tendency to pursue competitiveness strategies that aggravate these problems.

3. There is a growing interest in inclusive development also within the Globelics community. Of the 489 papers presented at the 8th and the 9th Globelics conferences in Kuala Lumpur and Buenos Aires, respectively, almost 91 (17%) approached the issue of inclusive innovation and inclusive development. In this paper we make an attempt to frame the concepts in a Globelics perspective.

4. Globelics is a world-wide, open and very diverse network of scholars. There is therefore no single and shared understanding of such basic concepts as inclusiveness and development.

What is implied by a Globelics perspective thus concerns methodological rather than normative issues. Innovation is seen as an interactive process taking place in innovation systems and includes processes of experience-based learning.

5. In this executive summary we first give a brief synthesis of the conceptual discussion in the report. The major purpose, however, is to spell out some basic principles for public policy and development strategies on the one hand and donor organisations and international advisory bodies on the other hand. This forms the main part of the summary.

Clarifying the concepts

6. The background for the growing interest in inclusive development is the many historical and current cases where economic growth in less developed economies has gone hand in hand with growing poverty among social and ethnic groups. Social classes, ethnic groups and regions have been left behind and remain excluded from contributing to the process and from its fruits.

7. Inclusion thus refers both to sharing the amelioration of material living conditions and to a broader participation in processes of change. In the report we make use of Amartya Sen's broad understanding of development and equality as being related to 'freedoms' and 'capabilities'. His distinction between instrumental and substantive freedoms is fundamental for our understanding of why and how inclusion matters.

8. In the report we thus make distinctions between two kinds of inclusion – passive and active inclusion. The narrow one is about reducing income inequality and bringing the poor out of poverty through raising their income. The broad one is about giving rights, voice, capabilities and incentives for the excluded to become active participants in processes of development and innovation.

9. There is a certain correspondence between Sen's categories and the understanding of innovation and innovation systems that forms the foundation of the Globelics perspectives. This is true for the assumption that innovation is rooted in interaction among diverse agents (including the poor) and the definition of innovation systems as experience-based learning among workers and consumers.

10. With this perspective we can explain why inclusion may be instrumental in promoting innovation. This idea has been presented under headings such as of 'bottom of the pyramid' and 'below the radar' innovation. Innovations meeting the needs of the excluded are here seen as tools to promote business interests as well as national economic development.

11. We may also explain why 'democratic' or 'inclusive' innovation' that engages citizens as consumers and workers in processes of innovation may combine offering substantive rights to the excluded with promoting learning process and thereby bolster social and economic development. Our perspective is different from one where innovation is seen as emanating exclusively from scientists, engineers and managers.

12. But it is obvious that innovations in poor as well as rich countries will open up new forms of inequality. For instance innovation will increase the demand for and the relative income of the highly skilled workers. Regions that host innovative enterprises will grow more rapidly than other regions. It would be a mistake to support only innovations that contribute to inclusion in the narrow sense.

13. The same can be said about the limits of 'inclusive development'. Processes of economic development are necessarily uneven and unbalanced, and they will give rise to new income gaps among individuals groups and regions. But at a later stage such gaps may become windows of opportunity to be exploited by intelligent policies promoting 'catching-up' for those left behind.

Lessons for development strategies and for donor organisations

Setting the objectives for inclusive development

14. There are thus important dilemmas in development strategies aiming at inclusiveness of innovation and development. This is especially true when we take a narrow economic perspective that links inclusion to income distribution. It is necessary to give incentives to those who are willing to run economic risks. Investments require a certain concentration of capital.

15. On the other hand there are both historical and current examples of development as thriving in societies with more equal access to resources. For instance Asian success stories based on land reform can be contrasted to more stagnant Latifundia economies in Latin America. Empirically, it is now becoming increasingly clear that income inequality retards economic growth.

16. The main objective set for economic development may be to raise the average living standards of the population. History and empirical data show that this objective may be reached through different paths in terms of economic equality. The weight given to inclusiveness in development strategies should reflect priorities as they are expressed in democratic political processes.

17. One of the most dramatic shifts in political priorities given to inclusiveness was the Chinese transition from the Cultural Revolution to the current decentralised market strategy. The current emphasis on unhampered growth and uneven economic development may be seen as a reaction to the suppression of inequality in the former era. Now attempts are made to move toward 'harmonious development'.

18. With the broad definitions of inclusion the dilemma may be dissolved. Giving voice, capabilities and rights to those excluded for ethnical, gender or other reasons brings new resources into society. And these new resources may be mobilised for social, cultural and economic development. Inclusion of minorities may be set as an objective that is fully compatible with development strategies.

19. This objective may be controversial and favoured neither by the national elite nor by the majority. Ethnic and religious conflict and cultural tradition will constitute barriers for inclusion. This gives a role to international and donor organisations. To stimulate processes to break down such barriers with respect for national autonomy may be their most important contribution to inclusive development.

Innovation, learning, knowledge and inclusion

20. In this report we give special attention to the link between exclusion and knowledge. Giving wide access to knowledge through basic education is a necessary element in promoting inclusive development. Selective efforts that offer education to excluded minorities may be seen as major steps toward including them.

21. The design of education systems is important for inclusion. This refers to the content and methods of teaching and the link to the rest of society. Giving more attention to training skilled workers, technicians, engineers and designers is crucial for linking up with technical innovation in the business sector. Another issue is the barrier between the culture of the school and the 'real world'.

22. Methods of teaching that combine school subjects with the realities of everyday life and that combine school activities with activities outside school may enhance the learning effects. Combining course work with problem-based learning works in the same direction. At more advanced levels students should be offered practical experience relevant for their future profession as integrated training.

23. But our systemic perspective on innovation and learning helps us understand why offering broad access to formal education is not sufficient. If there is no demand for skills, ef-

forts will not lead to economic development. Innovation is a process that creates stronger demand for skills. Inclusive development requires strategies that combine education with innovation-policy.

24. Innovation may be stimulated by building stronger links between knowledge and training institutions and organisations in the private and public sectors. In the report we refer to the need to establish interactive learning spaces where different kinds of organisations and expertise can meet and exchange ideas.

25. One approach is to establish interactive learning spaces in connection with more or less developed regional industrial clusters. This may involve building forward linkages from knowledge institutions and giving easier access to knowledge for industrial users. It may also involve building backward linkages through enhancing the capacity of users to demand and absorb knowledge.

26. Another approach is to define specific strategic barriers for economic development and to organise interactive learning spaces that involve crucial partners who can contribute to breaking down the barriers. In many poor countries the barriers have to do with a dependency on raw materials exports and the lack of capability to build industrial capacity on primary activities.

Selecting policy methods

27. In the report we also refer to specific policy principles and methods. One is experimentation combined with policy learning. Another is to practice a specific form of inclusive foresight. These methods take into account that policy makers and donor organisations operate in a context of uncertainty where there is no simple relationship between instruments and outcomes.

28. Experimentation may refer to government institutions or donors setting up or supporting local specific projects in order to draw experiences that can inspire general policies. Decentralising certain activities related to competence-building and innovation is a way to provide more diverse experiences. In order to generalise insights, decentralisation needs to be combined with institutions for evaluation.

29. Foresight exercises are often evoked in connection with advanced new technologies and include only the elite and decision makers. More broadly understood, foresight is a dynamic, participatory (inclusive), and strategic policy-making tool. It can be used to facilitate inclusive interactive learning spaces for both problem-solving and long-term planning relevant for everyday activities such as health, education, agriculture and fishing. It is thus best understood as a systemic and participatory innovation policy tool.

30. In the report we argue that this kind of inclusive foresight exercises may be of special importance in societies that are heterogeneous in terms of ethnicity and religion. Working out a common understanding of the future education and health system, including the need for new forms of organisation, new technologies and skills, enhance the development capacity of such societies.

Donor dilemmas

31. Donors can contribute to inclusive development by supporting experiments that may not be politically possible. Successful examples may inspire national and regional authorities to engage in regulatory activities. Specifically, donors may address the needs of minorities who for different reasons have been excluded in both the narrow economic sense and in terms of rights and opportunities.

32. Such interventions, while crucial for inclusive development, may be difficult to implement for two reasons. One is that donor organisations must show respect for the autonomy of government and the dominating culture in partner countries. Secondly, there is normally a low tolerance of mistakes and therefore also of experiments with uncertain outcomes in the home country of the donor organisation.

33. Donors may work closely with partners in developing countries to support their development of inclusive foresight exercises aiming at forming common visions of the future and a common understanding of the most important problems and opportunities in relation to economic development. Such exercises could result in both a broad development agenda and in defining specific new spaces of interactive learning.

34. One first priority could be to focus a foresight exercise on how the institutions engaged in the production and diffusion of knowledge interact with users in the formal and informal sectors. These institutions may themselves be formal and informal. One important consideration would be to what degree they include and exclude citizens and organisations in processes of interactive learning.

35. On this basis it may be possible to define a limited number of spaces for interactive learning that would aim at breaking down barriers for development and open windows of opportunities. Some of these opportunities may be constituted by gaps created by uneven development now ready to be closed through modest efforts.

Final words on the limits of inclusive development

36. There may be a tendency when designing activities among donor organisations to aim at perfection. Aid should be efficient and support economic growth. But at the same time it should also contribute to the solution of all kinds of problems – including reducing inequality, establishing a low carbon path, etc. It is important that this aim for perfection does not get in the way of what can be done.

37. Innovation and competence-building are fundamental for offering more people a better chance to live the kind of life that they want to live. But innovation will give rise to new inequalities and new problems. In this report we propose that the focus should be on initiatives that include those who have been excluded for specific reasons related to gender, ethnic background and religion.

38. It is clear that the issues of inclusive innovation and inclusive innovation systems point strongly towards a systemic analysis with a focus on learning capabilities, learning opportunities and learning results. The concept of 'interactive learning spaces' may be useful in this context. Especially the interdependency between the latter factors is central. This interdependency can be identified and analysed with the concept of interactive learning spaces that may be more or less inclusive.

1 Introduction

The point of departure of this report is that development is a process of interactive learning and innovation and that building local, regional and national systems of innovation may be a central part of a viable development strategy. In many ways this is a broad and multifaceted approach to the development problem. There are at least two reasons for this approach. First, the sources of learning are numerous and innovation includes minor as well as major changes of vastly different technical sophistication rooted in all types of activities and sectors. Secondly, evidence shows that innovation is widespread and common in 'the South' and leads to productivity increases in about the same ways as in high income countries (Fagerberg, Srholec and Verspagen 2010).

In spite of this basically broad approach, a certain kind of myopia has also characterised parts of the discussion: Innovation is seen as important mainly because it contributes to increasing productivity and hence to improved international competitiveness and economic growth. But growth is not the same as development, and development does not automatically follow from growth. There are many ways in which growth may fail to deliver on important dimensions of development.

It has recently become increasingly clear that rapid technical change and economic growth may be accompanied by increasing income inequality and aggravated rural-urban disparities. The fast-growing emerging economies of Brazil, India and China are all faced with deepening social and economic inequalities. These tendencies have increasingly placed the issue of social exclusion on the development agenda. How can the many millions of people who have yet to experience improvement in their living conditions that are expected to follow from economic growth be included in the processes of enhanced well-being? As a response to this question notions like 'inclusive growth', 'inclusive innovation' and 'inclusive development' have entered the development agenda, almost to the extent of becoming buzzwords. And the issue is, indeed, important to take on board.

Our focus in this thematic report is on inclusive innovation, or, more specifically, on inclusive innovation systems. Within the Globelics agenda there has been a tendency to move away from a narrow innovations-system concept focusing on research-based innovation in high-tech activities towards a broader concept where innovation is anchored in all sectors and in learning-based as well as research-based activities. We now need to move further on towards a more nuanced discussion of innovation-system performance. Not only inequality but, above all, the situation of different kinds of marginalised people and their inclusion in the development process need to be taken on board. For example, it is now widely recognised that the broad and inclusive sharing of social opportunities, especially shared basic education and human development, was a crucially important aspect of the successful development of East and Southeast Asia. Another well-known example is that no country with a democratic form of government and a relatively free press, which includes people broadly in political processes, has ever experienced a substantial famine (Sen 2000).

The report is structured in the following way: In Chapter 2 the notion of inclusive development is discussed and defined; Chapter 3 places the discussion in a Globelics perspective. In Chapter 4 we describe how and to what extent the idea of inclusive development has been present in the Globelics community as illustrated by the papers presented at the past Globelics conferences. In Chapter 5 we introduce the idea of an 'inclusive learning, innovation, and competence-building system' (iLICS). Chapter 6 explores the potential of foresight as a systemic and participatory innovation policy tool for inclusive development. The presence of aspects of inclusive development in development policies and in the North-South development assistance agenda is discussed in Chapter 7. The report concludes with Chapter 8.

2 What is 'inclusive development'?

Inclusive development has become a buzzword as well as a pressing issue. It may be asked why this is so, given that non-inclusive development can be seen as a contradiction in terms, so that talking about development necessarily should imply talking about advancement towards social inclusion. A conjectural answer is that development is naturally associated with inclusiveness, but the latter was deemed to happen mainly as a consequence of economic growth, so there was no need to care specifically about it. When the linear chain from economic growth to social inclusion broadly failed in the South, the idea that inclusiveness needs to be searched as such and not through a trickle-down effect started to be seriously considered, 'Inclusive development' acquired the status of problem and challenge that it has today.

'Inclusive development' is, however, a concept which is used in many ways and there is as yet no precise and broadly accepted definition of the term. In the following we shall introduce a number of distinctions between different aspects of the notion, which may make it easier to grasp.

2.1 Growth vs development

Sometimes the term 'inclusion' is used in a context where the focus is on economic growth rather than development. Growth is a more narrowly defined phenomenon than development, but the importance of this difference is often minimised by a, usually implicit, assumption that economic growth is the most important aspect of development, and that it will sooner or later 'trickle down' to all important segments of society and increase the well-being of most of the population by a vertical flow from rich to poor. In this context the notion 'inclusive growth' rather than inclusive development is often used. Inclusive growth may then be thought of as growth that allows large parts of the labour force to participate in production activities and benefits large parts of the population with higher incomes and improved living conditions. Compared to plain economic growth inclusive growth

is more broadly based across sectors and is more socially sustainable in the sense that it contains and reduces social tensions by benefitting disadvantaged and excluded groups of people (Commission on Growth and Development 2008).

The relationship between growth and inequality is an important and complex one. In Latin America, scholars involved with development thinking were worried already from the early 90s, not only with inequality as such, but also with the fact that economic growth failed to redress it. Fernando Fajnzylber (1991) reflected on the fact that in Latin America some countries with slow growth and high inequality, with slow growth and low inequality (Uruguay and Argentine), and with high growth and high inequality, but not a single country with high growth and low inequality. This became known as the empty box of Latin American development. During the last decade several Latin American countries have seen substantial economic growth. Some of these countries have made successful advances towards diminishing inequality and people that were socially excluded for generations have been included.

A notion related to inclusive growth is 'pro-poor growth'. The term is a bit older than inclusive growth and was a result of an increased focus on poverty reduction that occurred in the 1970s and onwards. In a literal sense, pro-poor growth sounds narrower than inclusive growth, but the difference should not be exaggerated as indicated by the following quotations: "Broadly, pro-poor growth can be defined as one that enables the poor to actively participate in and significantly benefit from economic activity (…) it is *inclusive* economic growth" (Kakwani and Pernia 2000). "Growth is pro-poor when it is labour absorbing and accompanied by policies and programmes that mitigate inequalities and facilitate income and employment generation for the poor, particularly women and other traditionally excluded groups." (ADB 1999).

The strategy to combine economic growth and social inclusion through pursuing economic growth on its own terms plus implementing social policies to take care of its most conspicuous negative social effects has not been very effective. Reflecting on Chile, the best behaved follower of the Washington Consensus, Infante and Sunkel (2009) indicate that a quarter of the population continued to live marginalised from the improved conditions that the country achieved through economic growth over decades. By insisting on the shortcomings of economic growth in achieving social inclusion, however, we do not imply that growth is not important; on the contrary, it is fundamental. We insist, though, that (i) economic growth alone is not enough, and (ii) that it is not uncommon that it is pursued in such a way that social and economic exclusion are increased rather than diminished.

2.2 The formal vs informal sector

Specific attention is increasingly given to the 'informal sector' (the definition of which is a problem of its own). This is in accordance with a quite old tradition in development theory, which recognises

the great importance, weight and size in many developing countries of activities going on outside the formal, or officially registered part of the economy. There are many reasons for this increasing attention. The purpose (explicit or implicit) may be to draw informal activities into the formal sector and to make them visible and controllable, for example for tax collection reasons. It is often observed in this connection that government expenditure for education, health, social security, etc., which are of utmost importance in the development process, are difficult to finance if a large part of the economy is informal.

The intention may also be simply to draw attention to the existence, size and performance of the informal sector to get a better understanding of the welfare and performance of the society as a whole. Another intention may be to activate hidden resources in the informal sector. Such resources may be of many different kinds. Of particular importance are different types of indigenous knowledge rooted in local cultures and practices. There seems now to be an increasing recognition that the potential role of indigenous knowledge in development has been vastly underestimated.

There is no good reason, however, to connect the notion of inclusive development primarily to the informal sector. The problem of inadequate or lacking inclusion is present in both the formal and the informal sector. Many people are part of formal structures, for example through their work in registered firms or they are registered as unemployed, or connected to local government arrangements, but are still unable to get access to or benefit from basic social services for their well-being.

Neither the formal nor the informal sector should be forgotten, and, above all, it is important to draw the *interaction* between them into the analysis. There may be a possibility of building up and expanding such interactions for the benefit of both sectors and society as a whole. Hidden potential may be identified, utilised and improved. This is generally a fundamental aspect of development (Hirschman 1958). So far, however, this has not been very much in focus in the discussions of inclusive development.

2.3 Passive vs active inclusion

Most conceptualisations of inclusive development, including growth and pro-poor growth, maintain a distinction between a situation in which people play an active part in economic activity or are just benefitting from it. In the latter case, the main problem may be seen to be that marginalised or excluded groups of people do not get a fair share of the fruits of economic growth. This may be described as an unequal distribution of income and wealth. People may benefit from economic growth through redistributive policies, as passive receivers, without taking active part in the production of values. This is a quite common and necessary thing in most societies, not only in the South. Pro-poor growth, in its crudest form, would perhaps mainly rely on redistributive policies helping the poor.

Most scholars, however, agree that this is not enough. Development requires that people are in-

cluded in taking *an active part* in forming the processes of political, social and economic change. It is not self-evident what this means, but terms like ownership, stakeholders, capabilities, participation, democracy, etc., are used in this connection.

In reality, the distinction between these two perspectives (people as active or passive, as producers or consumers, as makers or takers, as actors or clients, etc.) is not as clear as it may seem, since a more fair and equal income distribution may make excluded groups more motivated and able to participate actively in the processes of economic change and development. Still, the distinction is a useful one because to pay attention primarily to the distribution of goods and services does not necessarily tackle the root causes of the unsatisfactory distribution. Income and wealth may be redistributed by policy measures while the deeper mechanisms generating the problems are left as they are. People then remain passive and development does not become more inclusive.

The reasons for asserting that 'taking part in' is important are normative as well as practical; that is, they range from what is deemed good to what works or does not work in practice. Elinor Ostrom observed that when external intervention is needed for development purposes, it is important that they 'crowd-in' and not 'crowd-out' the intrinsic motivations people have: "External interventions crowd-in intrinsic motivations if the individuals concerned perceive it as supportive. In this case, self-esteem is fostered, and individuals feel that they are given more freedom to act, thus enlarging self-determination" (Ostrom 2005: 260). The idea that participation is important to achieve developmental results, particularly when what is at stake has to do with knowledge (which some people possess in one form and other people possess in another form) is now widely accepted. It is interesting to note that the issue of self-esteem in relation to participation is not limited to marginalised people, but to anyone whose capacities are not taken into account to achieve a determined goal. Christopher Freeman, for instance, observed that endogenous development can be preferred to licensing technology due to "...the effect of licensing the product on the morale of our own R&D engineers and scientists" (Freeman 1967, reprinted in 1992: 47).

As suggested by Ostrom and other scholars working on so-called 'knowledge dialogues', such as Johanna Chataway at Innogen in the UK and Joske Bunders at the Athena Institute in the Netherlands, such dialogues may be extremely time-consuming. The two approaches to inclusive development, as outcomes and as a process, can thus to some extent be seen as competitive. The process of 'taking part in' could, if taken to its extremes, jeopardise the outcome of 'benefitting from' the improvement of the quality of life derived from focusing on inclusiveness in the process of development. This danger has been indicated by Joske Bunders in relation to the co-production of agricultural knowledge, where the improvements brought about through informal research and development were too small to deal with the immense problems afflicting some low external-input agriculture systems, which needed

more radical change (Bunders et al. 1996). So, while not losing track of the need for people to take part in inclusive development processes, it is important to take into account the concrete requirements posed by the search for solutions to pressing problems in such a way and in such a time framework that people can benefit in terms of increased income from inclusive development progress.

2.4 Exclusion vs inclusion

The notion of inclusive development inescapably draws the attention to its opposite. Growth and development are never evenly distributed across sectors and regions. The process of development very often marginalises some people and leaves important groups of the population behind. To get to grips with 'inclusive development' it is helpful to understand the term 'social exclusion'. Inclusive development hinges on the inclusion of excluded people and the utilisation of their capabilities. Of course it may not necessarily be a good idea to include all excluded groups (for example the criminally insane, sociopaths, religious fanatics, etc.), but in general, inclusion should be all-encompassing, and any exclusion of a specific category of people should be explicitly motivated and argued (Sen 2010). If we want to understand inclusive development, we need to answer questions about social exclusion. The questions are e.g. Who are the excluded people? From what are they excluded? How and why are they excluded?

Social exclusion, as a dimension of poverty, has been thoroughly discussed by Sen (2000), who sees poverty in terms of 'poor living' rather than just low income. Poverty is a deprivation of capabilities and thus of the substantive freedoms people need in order to live the kind of lives they value (Sen 1999). In this perspective poverty is multidimensional. There are several capabilities that affect the extent to which it is possible for people to live lives that they consider as decent. The point to be made here is that social exclusion is connected to capability deprivation. It leads to capability failure. Social exclusion has both substantive and instrumental dimensions. Exclusion from social relations directly affects your well-being and may also, instrumentally, lead to other deprivations.

Long-term unemployment is a particularly serious exclusion since it is connected to a whole range of costs and losses; the recent development of the European economy indicates that it is an endemic phenomenon in capitalism in the North as well as the South. Not only is long-term unemployment a waste of resources, it is also an exclusion, which deprives people of social relations with substantial losses of well-being. It also leads to loss of capabilities (through loss of skills, loss of motivation, damaged physical as well as psychological health, etc.) and, as a result, further exclusion. Exclusion of large parts of the population through long-term unemployment may also damage social values and increase criminality.

Looking at it from the 'opposite' side it becomes obvious that social inclusion is both substantially and instrumentally connected to poverty allevia-

tion. By extension of this argument, social inclusion strengthens capabilities and increases the opportunities that people have to improve their lives. For society as a whole this may reasonably be called development.

Exclusion mechanisms / types of exclusion	Constitutive	Instrumental
Active	(1)	(2)
Passive	(4)	(3)

Table 1: Forms of social exclusion

Amartya Sen (2000) has proposed a taxonomy of social exclusion in terms of two contrasting categories: (i) constitutive versus instrumental and (ii) active versus passive, leading to four possible situations (See Table 1). In each of these situations non-income-related forms of social exclusion can be found. Constitutive and active exclusion (1), stemming from the intention to exclude and leading to serious deprivation, can be found in the TRIPS agreements on pharmaceuticals that have been called 'weapons of mass destruction' (Weber and Bussell 2005: 82). Instrumental and active exclusion (2) derives, for example, from the will to deny employment or insurance based on genetic data gathered in genetics banks and made available to employers and insurance companies. Instrumental and passive exclusions (3) can be seen as the result of differences in the levels of development, leading to differential access to technological advances. Constitutive and passive exclusion (4) is typical in the realm of health, where the lack of research on diseases of the poor (neglected diseases) implies that millions of people are excluded from the opportunities that science and innovation have to solve problems.

Even if constitutive and instrumental exclusion are contrasting categories it is important to note that exclusion may be constitutive and instrumental at the same time. Gender-related and race-related exclusion for example, may have both substantive and instrumental effects and be deeply ingrained in the culture and institutional set-up of a country.

It is crucial to note that both social exclusion and social inclusion, and hence, both capability deprivation and capability creation, are relational. Social exclusion works through diminishing and cutting off social relations and it hampers social interaction. Social inclusion requires and leads to new social relations. This brings 'institutions' into the agenda. Social interaction depends fundamentally on institutions. In fact, the term institution is a basic theoretical notion in social science mainly because it refers to the norms, laws, routines, practices, etc., which govern social relations and interactions. Social exclusion, as well as inclusion, depends on a host of different institutions. Inclusive development (and development in general) depends on what institutions exist, on how they change, and on how they exclude and include people in social relations and interactions.

2.5 Inclusion and exclusion in relation to learning

In a development perspective it is particularly important to pay attention to exclusion from learning. There is a substantial inequality with respect to access to learning between countries. The developmental power of heavy inclusionary investments in education to reach the broad masses of the population has been forcefully illustrated by the economies of East and South East Asia. Countries such as Japan, Singapore, Korea and China have used many (but different) channels to build up capabilities relating to learning and innovation, often submerged under the notion of 'technological capability' (Fagerberg, Schrolec and Verspagen 2010).

Methods of teaching such as problem-based learning, project-organised group work and efforts to combine school activities with activities outside school may both enhance learning effects and make it easier to engage broader segments of the young population in education. Such possibilities are often utilised only to a limited extent in the school systems of developing countries.

There is little doubt that exclusion of parts of the population from different kinds of education may seriously diminish countries' possibilities to develop into 'learning societies'. As learning and innovation become more and more important for the processes of economic change, limited and unequal access to different kinds of learning becomes more and more detrimental to economic development. It is now becoming increasingly clear that income inequality retards economic growth (Assa 2013). To what extent this is connected to limited and inadequate inclusion into the learning society is, however, not yet well-researched.

It is not only the opportunities for children and grown-ups to participate in formal systems of schooling, education and training that matter. For example, even if adequate institutions for formal education and vocational training are in place, employees may be excluded from learning at the work place, from opportunities for continuing education and from participation in learning and innovation processes in the firms. There are very big differences among countries in how and to what extent employees are included in learning and innovation as well as there are differences in how and to what extent firms are engaged in and compete by learning, research and innovation (Arundel, Lorenz and Lundvall 2007). The learning spaces (Arocena and Sutz 2000b) that exist in the private and the public sectors often include only a small selection of competences and fail to include other relevant competences.

Furthermore, opportunities for learning as a substantive value, for its own sake, may be limited for many people. It is also important whether people in the informal sector are broadly included in learning activities or not. A dynamic informal sector with robust processes of learning and innovation is crucially important for the cohesion of the society and the general well-being in many developing countries. Generally expressed, it is not only formal education that is important, it also matters very much to what extent there is a broadly based,

inclusive learning culture in the formal as well as the informal sector.

However, a slow and inadequate development towards a learning economy cannot be understood solely in terms of institutionalised exclusion from learning and a weak learning culture. Especially in the South there may also be a problem of a weak demand for competence and knowledge (Arocena and Sutz 2010). Even if substantial resources are mobilised, it may be almost impossible to build up, maintain and develop an adequate knowledge structure and a diverse set of competences if there is a lack of demand for knowledge from the domestic economy. If private firms and public organisations do not employ people with newly acquired competences to solve problems and develop solutions in daily production activities, their competences will deteriorate. Knowledge will be lost and new knowledge will fail to develop. If the demand for knowledge and competence primarily comes from international companies, the development of a domestic learning society with innovation-driven development will be hampered. Successful learning spaces thus require the coexistence of learning capabilities, learning opportunities and demand for competences and knowledge (Andersen 2011). Such learning spaces can, of course, be more or less inclusive, but inclusion is always an issue.

Even if there is now a rapidly growing amount of research into capability-building in developing countries, there is no consensus about how learning capabilities and innovation capabilities should be defined and measured. There are well-developed data for the formal systems of education for many countries also in the South, but there is a serious lack of more broadly based data on the 'learning culture' and on learning and innovation in the informal sector. Furthermore, there seems to be very little systematic knowledge and data about the mechanisms and relationships, which include and exclude different groups of people from processes of learning and innovation.

Exclusion from learning, as well as from other activities and relationships, may be active in the sense that it comes about through policies directly aimed at this. Or it may be passive in the sense that policies and regulations were not designed to lead to exclusion, but nevertheless occur (Sen 2000). It is of course important, not least for policy reasons, to know to which extent social exclusion is passive or active. It is also important to discuss if the mechanisms of exclusion are 'structural' and deeply rooted in the institutions of the economic system, or if exclusion is better characterised as a temporary situation caused by a of lack of equilibrium, which will eventually disappear more or less automatically in the process of economic growth. It is also important to discuss if some exclusion mechanisms are predominantly social and political rather than economic.

2.6 A definition of inclusive development

Fundamentally inclusive development aims at enriching the lives people can lead. Based on the discussion above the following definition may be proposed:

Inclusive development is a process of structural change which gives voice and power to the concerns and aspirations of otherwise excluded groups. It redistributes the incomes generated in both the formal and informal sectors in favour of these groups, and it allows them to shape the future of society in interaction with other stakeholder groups.

Observe that inclusive development is not necessarily 'efficient' in the sense that it maximises economic growth. As discussed above there is a potential conflict between the process of 'taking part in' and the result in terms of 'benefitting from' the process. It is a task for development policy to keep such conflicts within acceptable limits and to strike a balance.

From a policy point of view inclusiveness becomes a common concern and mandate for the whole gamut of public interventions. Policies are to be assessed not only according to their own parameters but also according to their direct and indirect influences on social inclusion.

This is a broad and rather open definition, which does not specifically refer to learning and innovation. In the perspective of development as driven by interactive learning and innovation, inclusive development may be conceptualised as a process which includes otherwise marginalised groups in the processes of learning and innovation that drive economic growth and development. In this perspective inclusive development gives otherwise marginalised groups a fair share of both the substantial values connected to learning and the results of learning in terms of income and wealth.

This is a specific perspective on inclusive development which puts learning at centre stage. It is not an all-encompassing definition of inclusive development, and it cannot stand alone. Learning capabilities are crucially important in development but, of course, not the only ones that count.

3 Inclusive learning in a Globelics perspective

3.1 Development as learning

Although a Globelics perspective on development may be regarded as a quite broad perspective, it is of course a specific, not all-inclusive perspective, which, by putting learning at the centre, leaves other important aspects out of focus. Put crudely, in a Globelics perspective, development is about enhancing capabilities and opportunities to learn at all levels of society, in the formal as well as informal sector. This is a methodological and positive approach rather than a normative one. It is about how inclusive development is understood and described, rather than a suggestion about what it ought to be.

Amartya Sen (2000) sees development as a process of expanding the freedoms people enjoy. He considers political freedoms, economic facilities, social opportunities, transparency guarantees and protective security, but he does not provide a complete list of the most important freedoms. The context and the people concerned affect which freedoms to focus on. Freedoms have both substantive and instrumental values, i.e. they are developmental goals in themselves as well as instruments for development, and they are intensely interrelated and feed upon each other. Freedoms constitute rights, opportunities and entitlements, which drive development. They are closely related to and enhance the capabilities people have to live the kind of lives they have reason to value. Capability is a kind of freedom – the freedom to the way of life you enjoy.

The 'capability approach' to development (which thus includes that the freedom to achieve well-being has substantive value as well as instrumental value and that freedoms are understood in terms of people's capabilities to do and be what they have reason to value) has become broadly accepted and quite influential. It has, for example, inspired various measurements of human capabilities such as the Human Development Index, the Gender-related Development Index and the Gender Inequality Index.

To regard development as capability driven enhancement of different freedoms agrees rather well

with the present tendency in development theory to put more emphasis on knowledge as a development factor and on learning and innovation as fundamental processes in development. The idea that knowledge is perhaps the most important development resource is of course not really new. Marx (1859) saw the development of the 'forces of production' as the main source of social and economic change and Marshall (1890) stated that "(…) knowledge is the most powerful engine of production; it enables us to subdue nature and satisfy our wants." More recently, however, the approach has become more widespread. The World Bank, for example, has emphasised the role of knowledge and knowledge diffusion in development. The World Development Report 1998/99 (p. 1) proposes that we look "at the problems of development in a new way: from the perspective of knowledge".

The Globelics research community is (among other things) an expression of this tendency. There is, however, no written formulation of a common way of thinking about development, and there is no common research strategy for the Globelics community. The Globelics community is defined and delimited in a quite open and flexible way, and it has no explicitly formulated research programme or strategy. However, most of the community would probably support the roles of knowledge, learning and innovation expressed above. At the Globelics' yearly international conference and in the conference papers, you often hear or read that development in the South includes bridging of 'learning and knowledge divides', and becoming 'learning societies'. The importance of building capabilities related to learning, innovation, organisational change, technical change and research is another common theme. Furthermore, according to its web page, Globelics is a network for the economics of learning, innovation and competence-building systems, and many of the conference papers are concerned with the building of such systems on different levels (local, regional, sectoral, technological, national and global) and dimensions as essential aspects of development policy-making.

As mentioned above, Amartya Sen (2000) does not provide us with a list of the most important capabilities, and he does not explicitly define or emphasise learning capabilities. But the capability approach with which he is associated fits well with what is going on in the Globelics community. Learning capabilities in a broad sense may be regarded as freedoms. They are connected to rights, opportunities and entitlements. Knowledge, seen as something people can possess or have access to, has value in itself and it creates opportunities for enhanced well-being in other ways as well. It may improve peoples' job opportunities and productivity, and it may increase the utility of the consumption of goods and services.

The same applies to learning; it has both substantive and instrumental value. The substantive value of learning may be less obvious than its instrumental value but it has been identified and discussed by several scholars. Already at the beginning of the previous century, Veblen (1918) stated that human beings are endowed by nature with instincts and

propensities. 'Workmanship' and, especially, 'idle curiosity' compel individuals to be industrious and creative and to strive for social and economic improvements. Such instincts place learning at the centre of technical and economic change. According to Scitovsky (1976), both the need for comfort (shelter, food, and other basics) and the need for stimulation (closely related to learning, and including experiencing new things, situations, relations, processes, ideas, competences, etc.) are based in our genes. The process of development will increase the relative importance of stimulation, because it is easier to saturate the need for comfort than the need for stimulation. In fact, the human need for stimulation seems to be without limits. Learning is, thus, an integrated part of development; learning drives development and development leads to increased demand for learning.

Put crudely, in a Globelics perspective, development is the enhancement of learning capabilities. For countries in the South, development means to gradually become learning economies. This is not the same as becoming knowledge-based economies. Every economy is a knowledge economy since knowledge is, and has always been, the basis of human survival and social life. But not every economy is a learning economy. In the learning economy the success of individuals, firms, regions and countries reflects the capacity to learn. The learning economy is an economy where change is fast and where old abilities become obsolete and new abilities come into demand at a high rate (Lundvall and Johnson 1994; Lundvall 2002).

The incentives and opportunities for learning are determined by economic, social and political relationships and learning is anchored in the institutions and structures of society. The combination of ICT and knowledge management, and the use of innovation as a main instrument of competition, implies that societies are 'learning to learn', and thus accelerating the speed of technological and economic change. Society, to quote Dawkins (2009), "evolves its evolvability". Of course, to regard 'development as learning' implies a broad notion of learning that recognises the complexity of the modern learning economy. It entails a large number of communicative interfaces, thus opening up the potential for interactive learning at many levels. This is not the place for a thorough discussion of the subject, but a brief presentation of different ways of learning, seen as economic processes, may give a flavour of the complexity of the learning economy. It is instructive to ask 'who is learning what and in what ways?' as it is done in Table 2.

It is clear that learning is a multifaceted phenomenon, and that when you try to rethink development from a learning perspective, you are addressing a vast number of more or less interconnected social interfaces and communications. It is not only about what goes on in schools, universities, R&D departments, etc., it is about something that goes on in a broader level of society – in its households, communities and organisations. Still, the Globelics approach is clearly narrower than the capability approach, since there are other important capabilities than learning capabilities.

The learners	The fields of learning	The ways of learning
• Individuals (as citizens, consumers, producers, researchers, policy makers) • Firms • Other organizations (universities, technological service organizations, banks, other financial organizations, patent offices, government departments)	• Technological learning (about products and processes) • Organizational learning • Consumer learning • Policy learning • Institutional learning	• Learning by doing • Learning by using • Learning by interacting • Learning by (re)searching

Table 2: Forms of social exclusion

3.2 Inclusive learning

The enhancement of learning capabilities and opportunities in ways which make them more inclusive may, by extension of the argument above, be the essence of a Globelics perspective on inclusive development.

Extended and increased inclusion may be possible in many ways, also in societies with relatively well-developed systems of education. In communities people need to learn both in relation to old and new activities. In firms there is often ample room for more and better employee learning, as indicated by the big differences found among countries in this respect (Arundel, Lorenz and Lundvall 2007). As a rule, other types of organisations (public and semi-public organisations, nongovernment organisations, etc.) may also become more inclusive in terms of learning. Unemployed people may become more engaged in education and training. Citizens may become more included in policy formulation and policy-making, which requires 'democracy learning'. 'Foresighting' and other policy-preparing activities may be developed (This will be further discussed in Chapter 6). Consumer learning may be diversified and extended. User-producer learning may intensify. Lastly, children may become more broadly and intensely included in primary (and secondary) education, and school systems may be improved.

It is important to note that these examples concern not only the building of learning capabilities but also their utilisation. As mentioned above, the long-term value of capabilities hinges on the opportunities to use them. A central aspect of a Globe-

lics perspective on inclusive development therefore involves a discussion of the creation of 'interactive learning spaces' in which learning capabilities and opportunities meet and there is an effective demand for new knowledge.

The examples given above of how the learning culture of a society may become more inclusive indicate that a Globelics perspective on inclusive development may be quite broad despite the fact that it necessarily is a specific, and thus limited, perspective it may contain many dimensions.

4 Inclusive development at Globelics Conferences

4.1 An overview

The topic of inclusive development is noticeably present in the Globelics community. In order to get an impression of how relevant the topic has been in recent research, and the ways in which the concept has been approached, we conducted an examination of the papers presented at the two latest yearly Globelics international conferences, namely in Buenos Aires (2011) and in Kuala Lumpur (2010). The criteria employed in this investigation relied on the search for papers that utilised at least one of a number of terms[1], all of which reflect alternative perspectives or dimensions on the inclusive development concept. Still, regardless of possible differences among the terms, all of them embed the conceptual elements of the definition presented in Chapter 2. In order not to cast the net too wide, papers with general discussions of economic development and developing countries, but which did not address issues of inclusion, were not selected. Likewise, papers about green innovation, which did not consider social or inclusive aspects, were also excluded. This provided us with a sharper perspective on how inclusive development was approached by the authors and allowed us to analyse the selected material under a variety of aspects. The papers identified as relating to inclusive innovation are listed in the Appendix to this report.

The results led us to affirm that the theme of inclusive development is clearly present in the research agenda. Among the nearly 500 papers presented at the two conferences, about 20% of the Kuala Lumpur papers and 15% of the Buenos Aires papers concerned the concept of inclusive development. In more than 60% of the selected papers the topic was a central rather than a marginal one. Most of the selected papers (72%) were written in and concerned with developing countries as compared to developed countries (28%); most of the papers

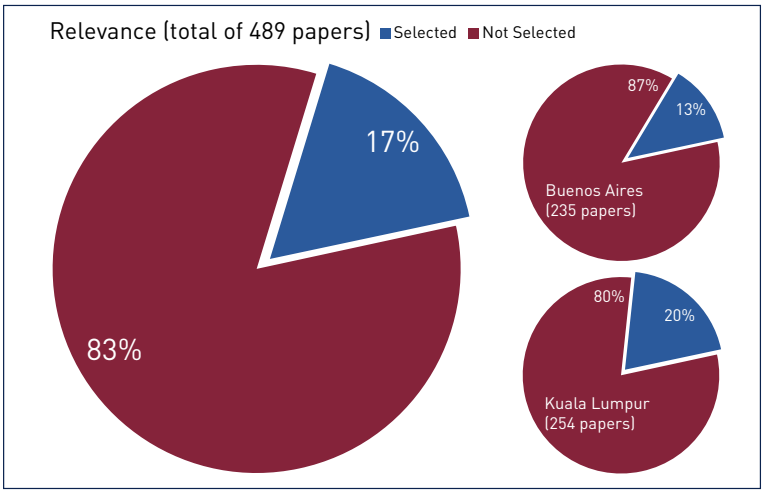
1 The terms used to select papers were: inclusive development, inclusive innovation, inclusive learning, informal sector, inequality, exclusion, bottom of the pyramid, poverty alleviation, local development, social inclusion, women's inclusion, pro-poor innovation, millennium development goals.

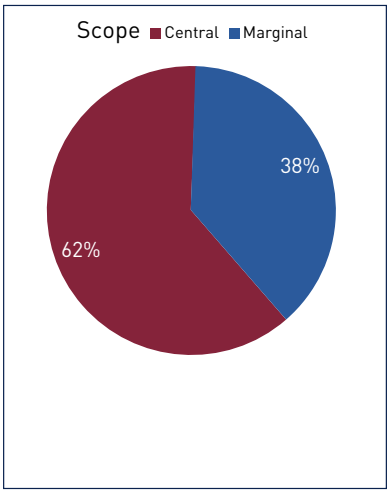
related primarily to the service sector (65%), compared to 20% for agriculture and 15% for the industrial sector.

Among the papers concerned with the service sectors, focus was mostly on health care-related activities (about 26%), followed by papers on information and communication technologies (15%), the role of universities in relation to the theme of inclusive development (15%), and the energy sector (13%), to name the most frequent topics. To illustrate such activities relating to the service sector that were discussed by the last two conferences, we discuss an example from the energy sector in Section 5.2.

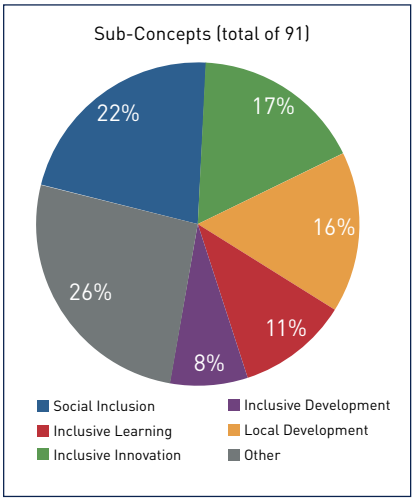
Concurrently, the agricultural sector is being approached in a variety of ways, ranging from product and service innovations to the understanding of the dynamics of its organisations. A relevant example is the Acopanela cooperative, a raw sugar producer located in El Salvador, which makes use of networking capabilities to stimulate its innovative and competitive performance. More details on this case will be discussed in Section 5.2.

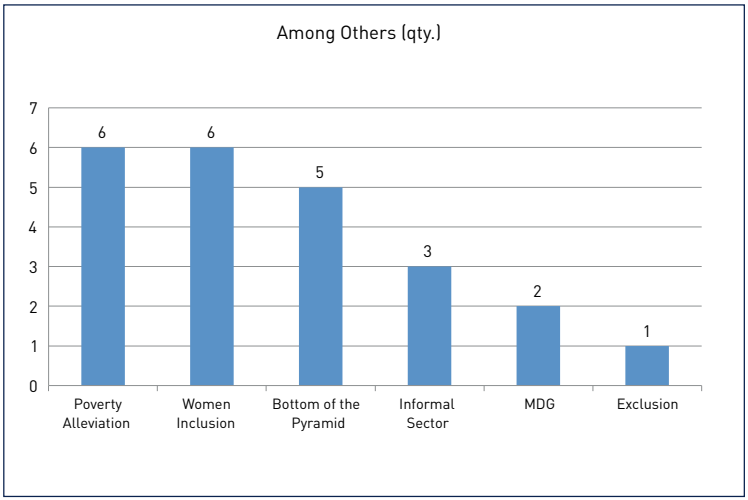
It is worthwhile mentioning that some of the papers discussed inclusive development issues from a cross-sectoral approach and they may therefore include more than one sector in the same time. In contrast, other papers cannot be classified as belonging to one specific sector because they present conceptual/theoretical analyses. The topic of gender inequalities, more specifically women's inclusion, is an example of such conceptual/theoretical papers. Section 5.2 presents more detailed information on how the topic of women inclusion was approached. These results, as well as a further division into subthemes, are illustrated by the following diagrams:



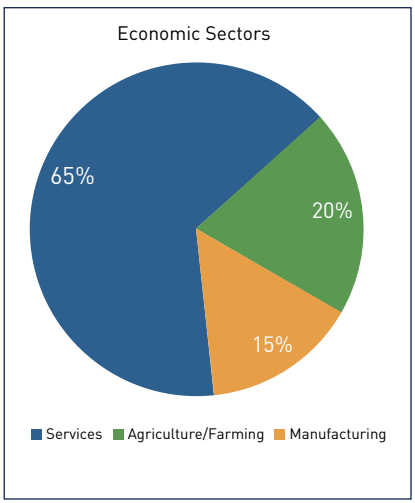


Among the selected papers, what are the sub-concepts?





Still among the selected papers, what economic sectors are being adressed?



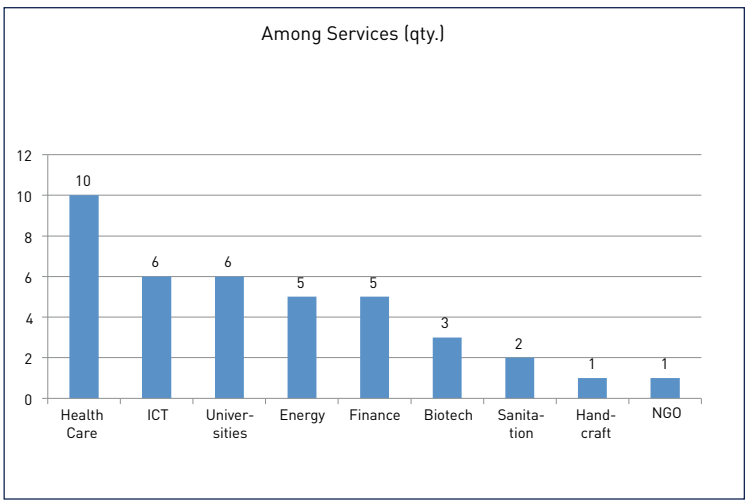


Figure 1: Inclusive development in Globelics Conference papers

4.2 Some examples

In order to give a more vivid illustration of the theme of inclusive development in the conference papers, examples were selected so as to indicate how the discussions on the following concepts took place: (i) inclusive development and social inclusion; under the perspective of energy infrastructure; (ii) local and inclusive development; a case study viewpoint that shows an example of active inclusion; and (iii) the inclusion of women. The three examples are discussed below.

4.2.1 Example I: Inclusive development and social inclusion: the energy sector

One of the most relevant issues concerning inclusive development and social inclusion is infrastructure management, be it related to countries' energetic matrix, transportation systems, telecommunication or others. Within the energetic matrix perspective, the fact that globally, 1.4 billion people do not have access to electricity (***Platonova 2011)*** demands thorough understanding of its causes, in the different contexts it might be present.

In the last two Globelics conferences, the topic was approached from various perspectives. Soumonni (2010) argues for the implementation of distributed sources of energy generation in West Africa. The term 'distributed sources of energy generation' refers to small-scale approaches to power supply, allowing for proximity between production and consumption locations, including the utilisation of renewable technologies, such as those generated by sun, wind, waste, etc. (Sovacool 2006, cited in Soumonni 2010). Such an approach would present an interesting alternative to the way that energy is currently being generated and distributed in West Africa. Today, the region's primary energy resources are oil, gas, hydropower and natural gas, which are highly centralised and, in turn, create and intensify West Africa's economic and technological dependence and produce environmental problems (Soumonni 2010). It is argued that the suggested alternative sources are more feasible than the current solutions and that they would provide better environmental and technological outcomes (Soumonni 2010).

In a similar fashion, Roy et al. (2010) analyse the situation in Sagar Island, India, in terms of energy supply and demand. The location is considered a touristic destination because of its religious-cultural prominence (Roy et al. 2010). Despite this, a large proportion of its inhabitants live under the poverty line, and electric power is available for only six hours a day, in the island (Roy et al. 2010). Since the island has an abundance of such resources, Roy et al. (2010), envisioning current and future opportunities of improving the island's energy supply, argue for the feasibility of implementing alternative sources of energy, such as solar, wind and biomass.

Within a micro-perspective, Vinck et al. (2010) expose how a global energy company faced highly uncertain situations when attempting to develop bottom-of-pyramid markets in some poor African and Asian regions. Vinck et al. (2010) assume that the main problem for these markets is one of access to products and services and that companies there-

fore have to rethink their organisational processes in order to reduce prices to be able to penetrate BOP markets. The case study did not only acknowledge this, but Vinck et al. (2010) also discover other intricate issues with which the global energy company was confronted during this project, for example: "the search for and choice of land and partners, the setting-up of teams [and the] paradoxical frontiers of consumption and aid to the poorest populations" (Vinck et al. 2010: 21).

Lastly, ***Platonova (2011)*** studied the alliances established between international non-governmental organisations and off-grid indigenous communities in Talamanca, Costa Rica, with relation to the diffusion of renewable energy solutions. The study recognised the importance of both the international NGOs and the local communities in implementing such solutions.

4.2.2 Example II: Local and inclusive development: Acopanela

A good illustration of the concept of local and inclusive development can be found in the Cummings and Cogo (2011) paper (Buenos Aires Conference) on how networking capabilities emerge and are developed in traditional small-scale industries. Their work presents a case study of Acopanela, a cooperative producer in the traditional industry of raw sugar (panela) in the Jaboa River Valley in El Salvador. The production of *panela* has faced difficulties for several reasons: the civil war in El Salvador (1969-1992), earthquakes in 2001, the competition with industrialised sugar producers, in addition to the lack of resources and support. These factors evidence the urgent need for innovation in the sector.

The authors maintain that the creation of synergistic links and the promotion of innovation systems can enhance performance as well as competitiveness. Their analysis highlights the network relations between producers in value chains, as well as with other stakeholders in the process. The study evidenced that, in the Acopanela case the stimulus to networking capabilities produced results mainly in new product development, access to new markets and financing.

The article also points at the design and implementation of public policies aiming at supporting rural agro-industries to gain competitive advantage in dynamic value chains. The main policy implications are: the fostering of learning-by-doing by having participatory planning for future action, promote socialization to other players and the critical evaluation of practice and performance. The authors highlight that producers should not be seen simply as beneficiaries of action, but rather as protagonists in the process.

4.2.3 Example III: Inclusion of women

Social inclusion from a gender perspective has also been addressed in the past two Globelics conferences. It was the central topic in two papers presented in Kuala Lumpur (2 010) and two others in Buenos Aires (2011).

Both studies presented in Buenos Aires focus on gender issues in the agricultural sector. Kingiri

(2011), from Kenya, proposes a debate on the role of women in innovation within the agricultural sector, in a systems perspective. She suggests a paradigmatic shift from two perspectives: (i) from gender analysis to gender learning; (ii) from women's empowerment to systems empowerment. The purpose is to promote a broader perspective, away from the individual towards the collective level. In a similar fashion, Parto et al. (2011) analyse the role of women in value-adding activities in the Afghanistani agricultural sector. It also addresses policy implications in order to stimulate gender inclusion while fostering economic activity.

In the Globelics conference in Kuala Lumpur, the papers took a more general and conceptual approach. Ahmad and Naimat (2010) point to specific constraints for the participation of women in entrepreneurship in Pakistan related to Pakistan's patriarchal tradition. This constrains the country's opportunity for general development. The study explores and analyses the impact of networking on entrepreneurship in a Pakistani context and its women entrepreneurs, and examines participation patterns and factors in order to enhance women's access to entrepreneurship. In parallel, Chopra (2010) argues that, within Indian society, women in general are held in low esteem in comparison to men. Women's participation in economic as well as political activities is restricted. The author claims that the roots of this discrimination should be found in Indian social norms, religion, families, and even in the legal system. For these reasons, the paper argues for capacity-building among women in habitat services in order to unlock hidden innovation potential. The paper presents two cases to provide a basis for a practical perspective on the topic: Jeevapoorna Women Masons and the Barefoot College. The cases provide evidence of how the acquisition of skills promotes societal change and inclusion.

In conclusion, the theme of inclusive development has had a clear presence in the last two Globelics conferences. The examples above indicate that the theme is both broad and diverse and can be viewed from many perspectives, of which only a few have been discussed in the Globelics conferences.

5 Inclusive innovation systems

5.1 Inclusive institutions

In the Globelics network the innovation system approach is used as a central framework for analysing and understanding issues of innovation and development in the South. In this Chapter we shall approach the concept of an 'inclusive innovation system'.

We are facing a 'double challenge' similar to the one that has been identified as achieving economic development and climate change adaptation at the same time – which may be called sustainable or green development. The challenge here is to induce social inclusion and achieve economic development at the same time and in such ways that they support each other. With regard to sustainable development, it has been argued that it might in fact be advantageous for developing countries to design their growth strategies according to a low carbon vision. We argue that something similar may be said about inclusive development – that in the longer run social inclusion improves opportunities for development, understood as the freedom for people to live the lives that they value. In the long run, social inclusion and economic development are synergetic forces.

Acemoglu and Robinson (2011) have recently made a strong case for what they call 'inclusive institutions'. Their argument is similar to the argument that social inclusion and development feed on each other. Nations often fail, they argue, to establish long term growth because their basic political and economic institutions extract resources from the majority in favour of a minority of powerful people. When powerful elites succeed, as they often do, in rigging the rules of the game for their own benefit, development will suffer. Acemoglu and Robinson make the case that in order to secure long term growth and development, countries need inclusive political and economic institutions. Such institutions distribute power and economic influence widely, establish the rule of law (i.e. legally binding limits and restraints on rulers), secure property rights and create incentives for large sec-

tions of the population to invest resources in learning and production.

According to Acemoglu and Roberts, inclusive political institutions will form the basis for economic institutions, but they are both necessary for sustained growth, and they are synergetic in relation to each other. Inclusive political institutions must be centralised as well as pluralistic. If either one of these conditions is not met, the political institutions become extractive. Inclusive political institutions allow central government to support the development of inclusive economic institutions for the stimulation and encouragement of broad segments of the population to participate in economic activities. Inclusive economic institutions also create incentives and opportunities for learning, education and more general technical change.

Economic growth is possible – but only for limited periods of time – under extractive political institutions provided that economic institutions are sufficiently inclusive to allow many people into productive activities. In the longer run, extractive political institutions will tend to obstruct the creative destruction of vested interests and thus obstruct structural change, which is necessary for economic growth. In this perspective the present high level of economic growth in China may not be sustainable in the long run since the political system may not be inclusive enough to secure creative destruction of increasingly vested interests resulting from the very process of growth itself.

Acemoglu and Roberts (2011) have been criticised for being too sweeping in their historical analysis[1]. This may be an understandable reaction in historians to general economic theorising on history. Acemoglu and Roberts nevertheless point to crucial macro level connections between inclusion and development. Furthermore, they forcefully underline and demonstrate the general importance of institutions as root causes of development: Growth and development hinges on institutions that include the broad masses in political and economic processes.

An important but 'disturbing' element in their analysis of why nations 'fail' is that movements towards greater inclusion seem to be difficult and rare. On historical level, extractive institutions are the norm and inclusive institutions the exception. Inclusive institutions and open societies do not emerge spontaneously, but are often an unforeseen result of conflicts between different elites and groups in power. Such conflicts may result in 'critical junctures', which become historical turning points that set off institutional change towards inclusive institutions. It is not easy for a country to transform its extractive institutions into inclusive ones. One thing that may be learned from this fact is that for development policies and the building of development strategies to be effective, a thorough understanding of the mechanisms of exclusion and inclusion at all levels of society is required. Research into the anatomy and change of inclusive systems of learning and innovation is clearly an important

1 See http://www.economist.com/blogs/buttonwood/2012/04/duelling-academics.

part of this. Another lesson is that sustained development requires adaptive and inclusive institutions. It is probably possible to achieve this only through 'policy learning', including institutional learning.

5.2 Inclusive innovation and systems of innovation

The notion of 'inclusive innovation' is increasingly being used in connection with development policy and strategy. Inclusive innovation is often regarded as an important ingredient of inclusive development. It is normally supposed to incorporate innovation *for* the poor as well as innovation *by* the poor. 'The bottom of the pyramid' needs good products at low costs, which may be brought about by innovations in ordinary firms in the formal sector. But grass root entrepreneurs may as well address the needs of the bottom of the pyramid through innovation. In fact, they may have especially good knowledge about such needs.

Policies for inclusive innovation thus encompass both the directing of innovation efforts towards the bottom of the pyramid and the promotion of innovation capabilities of grass root entrepreneurs and firms in the informal sector, both by supporting the diffusion of their innovations and by helping them to better integrate existing technologies. Policies that promote inclusive innovation can be regarded as complementary to policies that (directly and indirectly) affect innovation in general. This complementarity may in practice be expressed through the design of innovation policies that take on board social concerns, and of design of social policies that support innovation as part of solving social problems.

Inclusive innovation in a country can be regarded as situated within the more encompassing national system of innovation. The concept of 'system of innovation' was introduced in the 1980s, one of the main ambitions being the emphasis on the interdependence and interaction between technical and institutional change in the process of development. Innovations can only really be understood within a systemic and dynamic framework; the innovation performance of an economy (nation, region, city) thus depends not only on how its individual firms and organisations perform, but also on how they cope with change and interact with each other and with the financial and public sector.

There are at least three important propositions within the broad conceptualisation of innovation systems that are preferable for analysing development. First, that specialisation in terms of production, trade and knowledge strongly affects innovation performance. This is a common characteristic of the many different notions of territorially based innovation systems. The focus is on the co-evolution between what countries and regions do and what people and firms in these countries and regions know how to do well. This proposition implies that both the production structure and the knowledge structure will only change slowly and that such change involves learning. Capability development needs to be based on the capabilities that already exist.

The second proposition is that some elements of knowledge are localised and cannot easily be moved from one place to another. A central assumption behind the innovation-system perspective is that knowledge includes tacit elements embodied in the minds and bodies of people, in the routines of firms and in the relationships between people and organisations. This makes knowledge, not least knowledge in the informal sector and indigenous knowledge, spatially sticky.

The third implication of the discussed view is that relationships and interactions among people and organisations matter. Relationships serve as carriers of knowledge and interactions form the processes through which new knowledge is produced and learned. This assumption reflects the fact that neither firms and knowledge institutions, nor people innovate on their own. It can be argued that the most basic characteristic of the innovation-system approach is that it focuses on interactions. Interactions between people and organisations must have the potential to combine different kinds of knowledge, insights and competences in new ways to support innovation. The amount, intensity and quality of interaction all affect outcomes in terms of innovation. Major mechanisms of interaction and relationships may be called 'institutions,' referring to its meaning as informal and formal norms and rules regulating how people interact (Johnson 1992; Edquist and Johnson 1997; Scott 2001). Institutions are often regarded as growing from habits and routine behaviour. In this context, routines are seen as the more or less standardised procedures that economic agents, organisations and government agencies adhere to when they act and when they interact with each other (Dosi 1999). Concepts such as institutions and routines are useful in a theoretical context, but they are difficult to handle in empirical and historical studies. It is easier to track the history of, for example, R&D departments, universities and the professional training of engineers than it is to capture changes in how people interact and communicate. Despite this difficulty, an understanding of innovation processes is not possible without a grasp of how institutions shape interactive learning and innovation. This has been cogently illustrated by Acemoglu and Roberts (2011).

5.3 Interactive learning spaces

Arocena and Sutz (2000b; 2000a; 2002) have applied the innovation-system approach to developing countries, particularly in Latin America. They assume that: (i) innovation systems are idiosyncratic and the circumstances under which they emerge and grow are often unique, which makes imitation problematic; and (ii) interactive learning processes between different kinds of users and producers (of knowledge or products) are a main dynamic feature of innovation systems. They have found that it has been relatively easy to build the organisations and other components regarded as important to innovation systems while it has been much more difficult to stimulate linkage-building and interactive learning between them. Without the latter, the system has virtually no dynamics. The authors point to historically low learning capabili-

ties in firms (little investment in learning and very limited use of external knowledge sources), the absence of a 'learning culture', and a lack of understanding among policy makers as explanatory factors. The difficulty of building interactive learning linkages is in accordance with the observation of Acemoglu and Roberts (2011) that movements towards inclusive institutions are exceptions rather than rules in history.

To solve the lack of interactive learning in developing countries, Arocena and Sutz (2002) propose to build 'interactive learning spaces'. Such spaces describe a relatively stable situation in which actors have opportunity to learn while interacting with other actors in search for useful knowledge to address a given problem. It requires capability as well as opportunity on behalf of the actors to succeed. An example of such a space could be a forum for cooperation between producers and researchers for the solution of an unaddressed problem in a process where both parties learn and build new capabilities. Interactive learning spaces thus give rise to learning linkages mostly within the boundaries of the interactive space itself.

According to Arocena and Sutz (2000b), the successful examples of interactive learning spaces and innovation in Latin America that they found were characterised by pressing problems of production that were confronted by 'knowledge actors', a situation which led to research on related processes in a 'growing spiral'. In Uruguay an interactive learning space was created in relation to an outbreak of foot-and-mouth disease. The virus was a serious threat to the export of meat, and a vaccine was not available for import. As a consequence, several public and private organisations collaborated to develop a vaccine for the disease via a biotechnology route. Supported by political forces, a network of national and international experts, cattle producers, universities and other agents was built, and the product was developed. They received export orders for the product, which created capability-building in packaging, transport, marketing and bio-safety regulations. Unfortunately, the project was stopped by politicians due to concerns about safety and quality of the product (Arocena and Sutz 2000a). The negative outcome illustrates the fact that social and political legitimacy and support are important factors in building interactive learning spaces. It also shows that 'pressing problems' that are idiosyncratic to the context can be a strong enabling factor. Idiosyncrasy refers to knowledge that did not exist for the solution to the problem and therefore it had to be developed domestically. This can be interpreted as a model for understanding innovation-system dynamics. Once there is a need or opportunity (a transformation pressure), there is in principle a motivation for an interactive learning space to emerge. Given context factors, this space may spur a 'growth spiral' and the development of an innovation system.

We can regard learning spaces as a kind of building block of innovation systems. A learning space will most often require new institutions, organisations and technology to be created in the process. A learning space can be characterised as a system in its

own right if, over time, it consolidates and reproduces these institutions, organisations and learning linkages.

Stable relationships of communication, trust and interactive learning over time are characteristics of an innovation system. Interactive learning spaces may contribute to the creation and reproduction of such structures, which may require additional institutional and organisational innovation. Learning spaces may be regarded as 'growing nucleuses' of innovation systems. Without them the system would be stagnant rather than dynamic. One could say that innovation systems feed on interactive learning spaces for their formation, growth and transformation. Learning spaces will therefore also transform the prevailing institutional set-up.

An interactive learning space can be understood as the coexistence of learning capabilities and learning opportunities in a specific context motivated by the 'effective demand' for a solution to a specific problem or challenge. Assuming that learning spaces are embryonic points in the development of innovation systems, it is relevant to identify and study them empirically – how they emerge, grow and disappear. Learning spaces, in the same way as firms, organisations and institutions, may be more or less inclusive. Again, both substantive and instrumental issues are involved. Greater inclusiveness has a value in itself, and increasing and broadening participation in learning spaces should be regarded as a substantive value. At the same time it seems reasonable to assume that more inclusive spaces may lead to more learning and innovation than less inclusive ones, at least as long as increasing inclusion also leads to increasing diversity of knowledge and competences, and as long as increased transaction costs do not absorb all learning benefits.

With respect to policies, a focus on interactive learning spaces translates into what Arocena and Sutz (2010) call 'gardening policy' for development. A first element is that policy makers must avoid damaging existing interactive learning spaces; as the the example of foot-and-mouth disease showed. Secondly, policy makers should support the creation of interactive learning spaces, something which would be equivalent to sowing seeds and caring for them with water and fertilisers. Moreover, due to idiosyncratic features in each context/garden, specific policy development is needed, and detailed information about each garden is required for outlining strategies. In summary, policies should identify, protect and promote interactive learning spaces, because they are the cells of the innovation tissue whose multiplication and interconnection create innovation systems from below.

5.4 Inclusive systems of innovation

In a framework of positive analysis we may characterise inclusive systems of innovation by those subsystems of for example a national system of innovation that produces inclusive innovation as defined above. To describe an inclusive innovation system we would have to depict its specialisation pattern, i.e. the products and services it centres on as well as the competences and capabilities it utilises in producing them. We would also have to describe

how and to what extent the innovation activities utilise tacit knowledge and are situated in communities, regions, cities, etc. Finally, we would have to describe the institutions which control the interactions behind the innovations.

In a normative framework the perspective becomes a bit broader. There, the focus is on how to make the system more inclusive, but this may involve two different things. First we may want the system to be more inclusive in the sense that it will produce more inclusive innovation and thus strengthen the bottom of the pyramid, which is a good thing in itself. Secondly, we may want the system to become more inclusive because we believe that this will increase its innovation performance more generally for all sorts of innovation, not only for inclusive innovation. To strengthen the incentives for learning and innovation and draw broader segments of the population into these processes will in the longer run most likely improve the innovation performance and support development (compare the arguments of Acemoglu and Roberts (2011) referred to above).

The notion of an inclusive system of innovation illustrates that systems of innovation may be more or less inclusive. Movements towards more intensive and encompassing inclusion of the population in learning and innovation activities require organisational and institutional change. This in turn requires policy action and, in the long term, policy learning.

The concept of an inclusive system of innovation is quite complex since inclusion has to be understood and described at several levels (system-level interdependencies). The innovation processes of firms and other organisations may be more or less inclusive. The same goes for inter-organisational learning spaces. Furthermore, the institutions linking firms, banks, learning spaces, public organisations and policy makers, which allow them to interact, may also be more or less inclusive.

6 Inclusive innovation policy - the potential of foresight

In this chapter we shall discuss policy tools for making innovation systems more inclusive. Focus will be on broad participation in the process of developing innovation-policy. It can be understood as a 'democratisation' of innovation-policy and of the majority of the interactive learning spaces in the economy affected by public policy. One aspect of the latter is to move beyond ad-hoc and urgency-driven learning spaces towards strategically planned ones. In this endeavour the process of innovation policy-making, and inclusion into it, is central. We shall combine the earlier discussion of innovation systems and interactive learning spaces with the concept of foresight. We shall be concerned with the inclusion of marginalised groups into the process of policy formulation and prioritisation in the sciences, technology and innovation.

6.1 Policy tools for inclusive innovation systems

It is widely recognised that there is no universal recipe for, nor a general theory of policy-making for innovation (Ahlqvist, Valovirta, and Loikkanen 2012). Still, policy and strategy development are increasingly being interpreted as continuous, reflexive and interactive learning processes. Rodrik (2006; 2010) argues that as the global learning economy offers no simple and universal paths to economic development, and as any path is necessarily unclear ex ante, experimentation with policies and institutions is the only possible strategy. Policy learning, which is to be able to systematically experiment and learn from experience, is therefore an immensely important part of policy- and strategy-making.

It has been recognised that the effectiveness (implementation) of policies, to a large extent, depends on the involvement of a broad range of actors besides those formally in charge. Due to the complexity of the learning economy, policy formulation relies on the knowledge, experience and competence of different stakeholders. International experience shows that involving key stakeholders and the public in dialogue and decision-making processes is essential to making socially viable solu-

tions for new technology (Gibbons 1999). In this perspective policy-making is largely about aligning expectations and building a shared vision of the future. This implies that the process of formulating innovation-policy and the benefits related to it (process benefits), are more important than the actual, tangible outputs such as reports, list of priorities and recommendations (product benefits) (Ahlqvist et al. 2012). Policy-making needs to be both systemic and participatory.

The systematic experimentation and continuous interactive learning that is involved in a policy-learning perspective to policy development should not be understood as 'blind'. It takes direction from solving current, identified problems and from the dominant vision of the future – of what a desirable future might be. The perception of the future exerts a strong influence on the direction of learning and innovation, whether this perception is explicitly or implicitly held. It is not possible to rationally invest in a business, study for a career, save money or even send one's children to school without making some assumptions about the future – and such visions are thus inherent to decision-making (Wehrmeyer, Clayton, and Lum 2003). The process of policy experimentation should be guided by deep understanding of current problems, and by a systematic understanding of what the future may bring. The latter is particularly relevant in the learning economy where nations and organisations must constantly adapt to a rapidly changing environment. In this situation, development policies must be able to accommodate discontinuity, facilitate anticipation and proactive planning in order to provide a robust action plan, i.e. a stable underlying strategy combined with flexible tactics. It must be able to support the necessary internal structural change and innovation-system transformation, as the fundamental challenge is to build capability to anticipate and adjust to constant change. Hence, the task of policy- and strategy-making is thus extremely difficult and complex, but also unavoidable if we wish to successfully participate in the global learning economy.

A policy tool that can be systemic, participatory and explicitly addresses notions of the future for strategy building can be found under the broad concept of *foresight*. We suggest that the innovation-system approach can benefit from the experiences in foresight for innovation regarding achieving more inclusiveness. Foresight research has strong links to innovation studies because much of it is inspired by the emergence of the innovation-system approach and evolutionary economics (Smits, Merkerk, Guston, and Sarewitz 2010).

6.2 Foresight as participatory and systemic policy development tool

Foresight may be understood as a dynamic planning tool. It is a systemic process with participatory and inclusive elements and opportunities rather than an expert-based method. It may be a tool for supporting broad transitions towards a learning economy. Today, foresight is one element in a continuous policy learning process that contributes to a more reflexive mode of policy-making. Foresight

builds medium- to long-term visions, aimed at influencing present-day decisions and mobilising for joint action (Havas, Schartinger, and Weber 2010). The purpose of foresight is thus to imagine different futures and their consequences and, on that basis, engage in informed decision-making. It is perceived as a process where new insights emerge and capabilities are built rather than a tool for prediction. Foresight thus rests on two key assumptions: (i) that the future is not laid out, (ii) and that decisions and actions taken today can affect the future. A look at the roots of foresight gives us a deeper understanding of the concept and helps to demystify it.

6.2.1 The roots of foresight

Foresight is rooted in an American tradition of technological forecasting, which was mainly developed in relation to strategic military studies at the RAND Corporation in the USA during the 1940s and 1950s. Technological forecasting is often associated with making probabilistic assessments about the future, which makes accuracy a critical parameter. The fact that these methods did not predict the oil crises of the 1970s generated significant scepticism about the usefulness and validity of forecasting (particularly in periods of radical change), which in turn stimulated the development of other approaches (Miles 2010).

Foresight is also rooted in a European tradition of futures studies established in the 1960s and 1970s. The field of futures studies tends to be dominated by professionals from the social sciences and the humanities, and it is seen as an art involving creative and imaginative thinking and acting. Moreover, the early futures studies tradition was characterised by a pessimistic and critical perspective on the future and on technology, something which partly formed the foundation of the tradition of technology assessment. Compared to forecasting, futures studies were more focused on stimulating public debate, while forecasting was an instrument for concrete decision-making (Miles 2010).

Technology assessment is intended to analyse risk, costs and benefits related to the introduction of a specific technology or its management, and to convey this information to the public, politicians and other decision makers. Citizen participation in discussions about desirable developments and types of technologies is an important aspect of technology assessment. This distinguishes technology assessment from forecasting and futures studies, which both tend to be elitist and expert-focused (Andersen and Rasmussen 2012).

The inspiration for the first formulation of foresight came partly from Japan around 1980, a country whose technological forecasting was markedly different from what was going on elsewhere. It was characterised by: (i) not only the involvement of a few experts but rather thousands of scientists, industrialists, governments officials and others; (ii) it considered the demand side of future economic and social needs; (iii) it combined top-down and bottom-up elements; and (iv) it emphasised process benefits. This led Irvine and Martin (1984) to propose the term foresight as a strategic forward-looking technology analysis to be used as a public

policy tool in priority-setting in science and technology (Irvine and Martin 1984). It was defined in opposition to 'hindsight' – understood as the analysis of historical processes and the origins of certain important technological innovations.

The roots of foresight illustrate some basic distinctions. One major dividing line lies between forecast and foresight. According to Wehrmeyer et al. (2003) the forecast tradition has failed as a policy development tool for a number of reasons. First, it has limited ability to predict or survey discontinuities. Secondly, we cannot predict the social, economic and environmental consequences of technical change with any certainty, because our systems of knowledge co-evolve with the world. The weather does not react to a weather forecast but the economy does. Thirdly, the accuracy of predictions tends to decrease as time horizons expand, partly because the probability that the period of analysis will include one or more significant discontinuities increases as a function of time. These differences illustrate what foresight cannot provide.

Since Irvine and Martin (1984) foresight has established itself as a field of practice in public policy-making, in corporate strategic planning, and, more recently, as a scientific discipline. It is characterised by increasing conceptual broadening and diversity. The latter reflects experimentation with and application of diverse rationales as foundations for foresight. It has become more participatory and complex as it is being applied at multiple levels and in numerous dimensions. Despite the growing diversity, it seems that parts of the academic field working with foresight have recently adopted the innovation-system approach as its main rationale. It can be denoted innovation-system foresight (Andersen and Andersen 2012)[1]. This recent and more participatory form of foresight is a relevant instrument for inclusive development regarding poor and vulnerable people (Ely, Zwanenberg, and Stirling 2010).

Generally, a foresight contains three main phases: planning, execution and implementation. Each phase contains a number of steps. Without going into the details, but regarding the inclusiveness of foresight, it is critical in the planning phase to define the system of interest and who should be included. Despite being in principle a participatory policy instrument, the process of foresight can be more or less inclusive. Actually, broader participation in foresight has so far been limited. Instead focus has been on expert groups. One may distinguish between narrow and broad foresight. Narrow foresight is based on a forecast tradition where only a few key experts are involved, while broad foresight includes a much wider set of stakeholders. Narrow foresight tends to assume that all new technology is beneficial and progressive while broad foresight includes a discussion of desirability, costs, benefits and the direction of innovation (Loveridge 2005). In general it can be said that one should make sure

1 This connection between the two fields has been noted by several researchers (Barré and Keenan 2008; Cariola and Rolfo 2004; Martin and Johnston 1999; Smits et al. 2010), but despite obvious overlaps between them, there is little communication (Smits et al. 2010).

that those who are responsible for making the decisions necessary for achieving the desired change are involved throughout the foresight process such that they feel a sense of ownership of its results.

6.2.2 Foresight and inclusive development

As a systemic and participatory policy development tool, foresight has the potential to facilitate and guide the building of inclusive innovation systems. The benefits or functions of foresight are multiple. Below is given a tentative overview of these functions.

1. *Building, transforming and strengthening innovation systems* (towards more inclusiveness). This is the primary goal of foresight. The remaining benefits of foresight can be seen as instrumental in achieving this. It concerns the construction and creative destruction of (sub)systems, and the prevention of system lock-in.
2. *Managing, supporting and building interactive learning spaces*. This involves supporting, reorienting and creating new networks and linkages within and across technologies, sectors, markets (subsystems) and around problem-solving (Smits and Kuhlmann 2004)pointed out that almost all OECD countries were facing the same \ nkind of problem. (A. These interactive learning spaces can aid communication, understanding and collaboration across boundaries, be they geographical, organisational or disciplinary in nature, and thereby increase understanding and build trust between participants. Consequently, this can improve policy implementation through increased transparency, legitimacy and ownership. (Barré and Keenan 2008).
3. *Providing platforms for learning and experimenting*. Create neutral spaces for dialogue and debate about the future with room for creative imagining of futures that facilitate various forms of learning.
4. *Stimulating demand articulation* (in otherwise excluded groups). The articulation and communication of demand and needs are generally overlooked as a critical component of successful interactive learning and innovation (Laestadius 1998, 2000). Hence, there is a need for spaces that can facilitate these activities across subsystems. It is particularly relevant for identifying, articulating and communicating the needs of the poor into demand for knowledge (Ely et al. 2010).
5. *Capability-building* in participants and on system level with focus on the enhancement of responsiveness to change and on strategic thinking by developing the language and practices for thinking about the future (Barré and Keenan 2008). System-level capability-building hinges not only on the capabilities of the actors but also the construction of (formal and informal) institutions for inclusive problem-solving and inclusive policy development – an institutionalisation of innovation-system foresight.
6. *Informing policy decision-making processes,* which concern the generation of insights into the dynamics of change, future challenges and options,

along with new ideas, and their transmission to policy makers. (Costa, Warnke, and Cagnin 2008).

7. *Facilitating policy implementation* via participation that enhances the capability for change within a given field by building a common awareness of the current situation and future challenges (Costa et al. 2008). A clear benefit of participation is that stakeholders often are much more committed to a plan that they have contributed to designing, thus facilitating the implementation of decisions. This also implies translating the collective visions into specific policy initiatives and a timely plan for implementation.
8. *Embedding participation in policy-making,* which is equivalent to some degree of inclusion. Foresight can facilitate the participation of civil society in the policy-making process, thereby improving its transparency and legitimacy (Costa et al. 2008). Participation also helps explicitising the values of stakeholders and visions. This relates to how issues and problems get defined and prioritised, and the choice of criteria according to which one should assess initiatives, technology or developments as good or bad (Ely et al. 2010).

On this background foresight has been referred to as a tool for 'wiring up' innovation systems. Martin and Johnston (1999) argue that "central to the concept of the national innovation system is the vital importance of the interactions between the actors making up the system. To strengthen the national innovation system, we need to stimulate, extend, and deepen those interactions if the system is to learn and innovate more effectively. (Technology) Foresight offers a fruitful mechanism to help achieve this." It is important to note that these benefits are exclusively 'process benefits' that are not possible with narrow participation. Since policy must be distributed and actors are seen as the primary agents of change, innovation-system foresight must be 'inclusive' to be transformational.

6.3 Foresight and inclusive innovation systems

Innovation system foresight has been suggested here as a systemic and participatory policy development tool suitable for making innovation-policy and innovation systems more inclusive, and in turn stimulate inclusive development.

Even though in principle the arguments presented are reasonable, Smits and Kuhlmann (2004) complain that most innovation policies in Europe currently focus on individual organisations and supply-side measures, which results in a severe lack of system-level innovation-policy. The latter illustrates that the innovation-system approach has limited influence on policy-making, but combined with inclusive foresight it may be a good starting point for inclusive innovation-policy. It is important to note that such inclusive innovation-policy is complementary to rather than substitutive to other types of innovation policies. It has the potential for tuning and guiding the portfolio of innovation

policies, and thereby for improving the efficiency and effectiveness of existing policies and even for reshaping them.

Furthermore, as foresight is no panacea for inclusive development, it should not be considered a 'quick fix'. For example, foresight cannot impose consensus where there are profound underlying disagreements even though it may help to diminish them. Moreover, interactive learning around problems, opportunities, visions and specific action plans can take a long time to produce widely accepted notions of the way forward. Achieving significant change often requires lengthy preparation and considerable groundwork. Foresight can be considered an inappropriate tool in situations where: (i) there is no possibility of acting on the results – there should be a strong link to decision makers; (ii) relevant key stakeholders cannot be actively engaged in the foresight; (iii) resources are inadequate for completing the foresight; and (iv) no clear, precise and agreed scope/purpose can be established.

Despite these comments of precaution there seems to be vast potential for stimulating inclusive development via the use of systemic and participatory foresight for innovation-policy. Especially, it is a policy tool that tries to address the roots of the mechanisms generating inequality and exclusion rather than compensating the excluded via redistribution of benefits. It should be accomplished through active enrolment and mobilisation of people and their (latent) resources. With reference to the terminology of Sen (2000), presented earlier, a foresight exercise can be understood as an active and instrumental tool for creating inclusion. When foresight is institutionalised in a system, it can also be described as a constitutive policy tool for inclusion.

The concept of interactive learning spaces has most often been applied to situations characterised by urgent problem-solving. This is especially true in the South where urgency often drives ad-hoc creation of interactive learning spaces (Arocena and Sutz 2000a, 2000b). Participatory processes can be applied to address current problems, but has normally been used in foresight to address medium- to long-term strategies. By combining the concepts, it is possible to distinguish between four types of interactive learning spaces for innovation policy-making, see Table 3.

A reactive interactive learning space focuses on problem-solving activities, and a proactive interactive learning space addresses longer-term policy formulation with focus on developing shared visions, action plans and the coordination of other interactive learning spaces. Both types of spaces can be exclusive or inclusive. Obviously, reactive and proactive spaces are interdependent because it is difficult to identify something as a problem, or prioritise A over B, without a vision about how things ought to be. Ideally, short, medium and long-term problems, opportunities and challenges are equally and continuously addressed according to context, and systematically interlinked in the visions and action plans developed. This can be achieved by use of e.g. roadmaps and 'backcasting' techniques.

	Reactive interactive learning space (problem-solving)	Proactive interactive learning space (policy/strategy development)
Exclusive interactive learning space (narrow foresight, forecast tradition).	1. Experts solve problem without (broad) inclusion and interaction.	2. Experts and forecasting tools predict and plan for the future (which is value neutral) without (broad) inclusion and interaction.
Inclusive interactive learning space (broad foresight, system perspective).	3. Problem-solving involving stakeholders affected.	4. Identify desirable future via inclusive policy-development process.

Table 3: Taxonomy of interactive learning spaces.

We may furthermore understand inclusive interactive learning spaces as paying particular emphasis to the micro-foundations of the innovation-system approach – communication, coordination and interactive learning between users and producers of knowledge. It seems reasonable to argue that most often users and producers require a shared vision to engage in successful interactive learning. Vision-building may here be understood as bridging/closing 'distances' (cognitive, cultural, etc.) between users and producers to ensure better communication (Lundvall 1992). As a consequence, inclusive interactive learning spaces can increase the quality of linkages between actors in the economy and the innovation processes. Proactive and inclusive interactive learning spaces further have the potential to strategically affect the direction of innovation activities. Reactive and proactive spaces combined thus have the potential to increase the quantity and quality of connections in an innovation system, and moreover to influence/shape the direction of change towards inclusive development. Georghiou (2007) argues that 'foresighting for development' may not only make successful innovation more likely but also shape the direction of innovation towards solutions to problems relating to sustainability and poverty alleviation.

7 Inclusive development in development aid

Even if there is not yet any donor country that has made inclusive development (or inclusive innovation) its main aid principle, the concept has already firmly arrived on the development aid agenda. This tendency has, somewhat paradoxically, not been affected by the current crisis in the international economy. The emphasis on inclusion in development continues to increase in spite of its decreasing importance in the present economic situation, especially in Europe and the US. To some extent the discussion of development in the South seems to have been derailed from the immediate condition of the world economy.

The World Bank, the United Nations and other international organisations increasingly use the notion of inclusive development (and perhaps even more, inclusive growth) and this is also the case for some national donor organisations like Sida (Sweden), IDRC (Canada), Danida (Denmark) and Norad (Norway); see the list of further readings in the Appendix[1]. When these notions (and related notions like 'below radar', 'bottom of the pyramid', 'pro-poor') become more and more popular in the development aid community, we can expect an increasing number of concrete development aid projects to take elements of inclusive development on board. The World Bank (2010), for example, gives many examples of development projects focusing on inclusive innovation in various countries and sectors. Some projects build on public R&D and university initiatives. Others seek to encourage the private sector to serve the needs of the poor. Sometimes this takes the form of pro-poor, public-private partnerships. There are also examples of local NGO initiatives, some of which are supported by global networks. In general though, there are few of these aid-related organisations that are in-

1 The list illustrates that a vast number of international and national donor and research organisations are applying the term inclusive development, and that they do so rather differently.

terested in the couplings between innovation and development. Inclusive innovation is no exception.

Still, there are also examples of projects that go beyond helping the poor and supporting the bottom of the pyramid. This implies going beyond innovation *for* the poor towards innovation *by* the poor. The perspective outlined in this report calls for a systemic perspective where *for* (redistribution, passive participation) and *by* (active participation) are combined because they interact and are interdependent. The latter implies that aid policies should seek to apply participatory processes in relation to problem and conflict solution, and in relation to medium- to long-term strategic planning. Participation is already widespread in aid policies (voice, ownership, democracy, etc.) but it is rarely coupled to innovation and learning. Instead, a Globelics perspective entails that the aid policy increasingly considers the obvious couplings between learning, innovation and development, and that they acknowledge the instrumental and substantive values of social inclusion for the latter.

An example of this approach is the promotion of grass roots innovation capabilities. This includes supporting and building on indigenous and traditional knowledge. Efforts in this direction often necessitate defining and removing barriers to grass roots innovation and the utilisation of indigenous and traditional knowledge, such as e.g. the lack of intellectual property rights and poor documentation of these kinds of knowledge.

But also more informal barriers have to be taken into account. In some countries there is considerable mistrust between scientists, on the one hand, and practitioners of indigenous knowledge, on the other hand. It still seems to be a common attitude in the science community, also in the developing countries, to belittle traditional and indigenous knowledge as primitive and even superstitious. Such attitudes may make it more difficult for traditional and indigenous knowledge to mobilise resources for its continued development, and it may seriously hamper fruitful combinations of modern and traditional knowledge. This is a serious problem since, in many developing countries; there are rich sources of indigenous knowledge and an increasing interest in the possibility of utilising them for development. A large number of cases from many countries in the South, for example in local resource management, agricultural production, health care, primary education and local conflict management, demonstrate that indigenous knowledge has the potential to contribute much more to development than it does today (World Bank 2004). However, there are still many barriers that slow down this process.

Indigenous knowledge resources should not be thought of as static, obsolete and diminishing. There are, and have always been, important innovation capabilities which build on and utilise these knowledge resources. For example, this is well documented in several sectors in Tanzania, including small-ship building, rural blacksmith work and pottery enterprises (Müller et al. 2011). In one sense, such innovations may be regarded as inclusive as they are, at least to some extent,

the product of initiatives both *by* the poor and *for* the poor. But many of the examples from Africa described by the World Bank (2004) and in Müller (2011) do not seem to be especially inclusive in the sense that they include different groups of people in the innovation process. In many cases the innovators seem to be rather small groups of people with specialised skills. There is no reason, however, to rule out the possibility that indigenous innovation can become more inclusive. It is particularly important to break down the barriers between indigenous and scientific knowledge in order to make the two more inclusive in relation to each other.

To acknowledge that innovation is basically interactive and ubiquitous (i.e., broadly anchored in the society and not necessarily or even primarily tied to science-based activities in high-tech sectors but very often building on experience-based knowledge in low- and medium-tech activities) may open up for new strategies in development aid donor organisations. If it is taken on board that innovation is interactive, this could offer donors more interfaces between different organisations and different groups of people with which to work. It could open up for new kinds of aid and, at least in principle, make it easier to design aid that works. The unfortunate present bias to focus too much on scientifically based knowledge and to neglect experience-based knowledge, including traditional and indigenous knowledge, could be reduced by taking the ubiquitous, interactive and systemic character of innovation on board.

On the other hand, this would also make aid more complex and increase the competence requirements in donor organisations. If, in addition to this, it is observed that innovation often needs to be more inclusive, the situation becomes even more multifarious and demanding. Innovation aid potentially becomes more powerful. At the same time, however, its complexity increases since even more communication interfaces have to be taken into account.

In addition to this, the political difficulties connected with innovation aid may increase. Power relations will be affected, which may create expectations of a better future for some groups and lead to resistance and counteraction in other parts of the population. Broadly inclusive development is likely to be contested by national elites and groups with wealth and power. Helping bring down such barriers for development would be important but potentially highly controversial tasks for development aid organisations. It is not likely that a focus on inclusive development will make life more comfortable for donor organisations, which must respect the autonomy of host governments. Furthermore, opening up new types of aid is often politically controversial in the home countries of donor organisations. There may be low tolerance of mistakes, and experiments involving uncertain outcomes may tend to be held back.

8 Concluding remarks

Inclusive development has become an important concept in development strategy-building and policies in the South. It has also become an important theme in international development organisations like the World Bank and the UN and, to some extent, the IMF and the OECD. Several national development donor organisations have started to utilise it in their aid programmes (see the Appendix). This is a broadly based change, not only in terminology, but also in the ways we think about development. There are many reasons for this development, but a major one is that inclusive development has both instrumental and substantive value. 'Social inclusion' enters the discourse from two directions. It is not only a way to support development but also an increasingly important aspect of what we mean by development and why we consider it important and worth striving for both in the North and the South. In the 1960s 'modernisation ideals' were defined both as important instruments for development and as the main development goals (Myrdal 1968). Today, social inclusion may come to play an almost equally important role in the development discourse.

There is a danger in this conceptual success. It must be realised that more inclusion is not always an improvement. For everyone to be included in everything is an absurd ambition, from both an instrumental and a substantive point of view. Transaction costs would be staggering, and very few would consider it a valuable thing in its own right. Inclusive development is a difficult and complex concept because inclusion has to come in the right amount and be of the right kind in order to promote development. The requirements for its instrumental and substantive aspects are not necessarily the same. Furthermore, 'inclusive innovation' is not a panacea for harmonious growth and development. Innovation will always affect the distribution of incomes and power between people and regions, and thus lead to new conflicts and inequalities. Making innovation more inclusive may potentially make conflicts more predictable and reducible but it will not remove them.

9 Bibliography

Acemoglu, D. and Robinson, J. (2012), *Why Nations Fail: The Origins of Power, Prosperity and Poverty*, Crown Publishers.

ADB (Asian Development Bank) (1999), *Inclusive Growth. From Poverty Reduction to Inclusive Growth.*

Ahlqvist, T., Valovirta, V. and Loikkanen, T. (2012), 'Innovation policy roadmapping as a systemic instrument for forward-looking policy design', *Science and Public Policy*, 1–13.

Ahmad, H., M. and Naimat, S. (2010), 'Networking and Women Entrepreneurs: Beyond Patriarchal Traditions', *Globelics Conference in Kuala Lumpur*, 2010.

Andersen, A. D. (2011), *Innovation systems and natural resources – The case of sugarcane in Brazil*, Ph.D. dissertation, Department of Business Studies, Aalborg University.

Andersen, A. D. and Andersen, P. D. (2012), *Innovation-system foresight: A conceptual exploration of innovation-system research and foresight: Explicating and systemizing the innovation-system foundations of foresight and exploring its implications,* Scientific Report, Danish Technical University, Department of Management Engineering.

Andersen, P. D. and Rasmussen, B. (2012), *Fremsyn: Metoder, praksis og erfaringer,* Danish Agency for Science, Technology and Innovation, Ministry of Science, Innovation and Higher Education. http://en.fi.dk/.

Arocena, R. and Sutz, J. (2000a), 'Looking at national systems of innovation from the south', *Industry and Innovation*, *7*(1), 55–75, Taylor and Francis.

Arocena. T., Sutz, J. (2000b), 'Interactive Learning Spaces and Development Policies in Latin America', *DRUID Working Paper*.

Arocena, R. and Sutz, J. (2002), 'Innovation Systems and Developing Countries', *DRUID Working Paper* No. 02-05.

Arocena, R. and Sutz, J. (2010), 'Weak knowledge demand in the South, learning divides and innovation policies', *Science and Public Policy*, Vol. 37, No. 8, 571-582.

Arundel, A., Lorenz, E, Lundvall, B.-Å. and Valeyre, A. (2007), 'How Europe's economies learn: a comparison of work organization and innovation mode for the EU-15', *Industrial and Corporate Change*, 16, (6).

Assa, J (2012) Inequality and Growth Re-Examined, Technology and Investment, 2012, 3, 1-6.

Barré, R. and Keenan, M. (2008), 'Revisiting Foresight Rationales: What Lessons from the Social Sciences and Humanities?' In C. Cagnin, M. Keenan, R. Johnston, F. Scapolo and R. Barré (Eds.), *Future-Oriented Technology Analysis - strategic Intelligence for an Innovative Economy*. Springer.

Bunders, J., Loeber, A., Broerse, J. and Haverkort, B. (1996), 'An Integrated Approach to Biotechnology development.' in Bunders, J., Haverkort, B. and Hiemstra (Eds.) *Biotechnology. Building on Farmers Knowledge*, Macmillan: 201-227.

Cariola, M. and Rolfo, S. (2004), 'Evolution in the rationales of foresight in Europe', *Futures*, *36*(10), 1063–1075.

Chopra, Vrinda (2010), 'Building Capacities of Women in Habitat services - challenging tradition, driving innovation'. *Globelics Conference in Kuala Lumpur*, 2010.

Commission on Growth and Development (2008), *Growth Report: Strategies for Sustained Growth and Inclusive Development*, The World Bank.

Costa, O. D., Warnke, P. and Cagnin, C. (2008), 'The impact of foresight on policy-making: Insights from the FORLEARN mutual learning process'. *Technology Analysis & Strategic Management*, 1–20.

Cummings, Andrew; Cogo, Eleonora. (2011), 'ACOPANELA cooperative´s networking capabilities and innovative performance, producing and marketing natural raw sugar - panela - for dynamic markets', *Globelics Conference in Buenos Aires, 2011.*

Dawkins, R. (2009), *The Greatest Show on Earth. The Evidence for Evolution*. Bantam Press.

Dosi, G. (1999), 'Some Notes on National Systems of Innovation and Production and Their Implication for Economic Analysis', in D. Archibugi, J. Howells and J. Michie (Eds.), *Innovation Policy in a Global Economy*, Cambridge: Cambridge University Press.

Edquist, C., Johnson, B. (1997), 'Institutions and Organizations in Systems of Innovation', in Edquist, C. (Ed.) *Systems of Innovation*, Pinter: London and Washington.

Ely, A., Zwanenberg, P. V. and Stirling, A. (2010), *New Models of Technology Assessment for Development*, STEPS Centre.

Fagerberg, J., Schrolec, M. and Verspagen, B. (2010), 'Innovation and Economic Development', in Hall, B. H. Rosenberg, N. (Eds.) *Handbook of the Economics of Innovation*, Volume 2, North Holland.

Fajnzylber, F. (1989), 'Industrialización en América Latina: de la 'caja negra' al 'casillero vacío': comparación de patrones contemporáneos de industrialización', *Cuadernos de la CEPAL* No 60 (LC/G.1534/Rev.1-P), Santiago de Chile, Comisión Económica para América Latina y el Caribe, (CEPAL).

Freeman, Ch. (1967), 'Chapter prepared for the OECD Experimental Working Session on Science Policy', reprinted in Freeman, Ch. *The Economics of Hope*, Pinter Publishers, 31-49.

Georghiou, Harper, J. C., Keenan, M., Miles, I. and Popper, R. (Eds.). (2008), *The handbook of technology foresight: concepts and practice*. Edward Elgar Publications

Gibbons, M. (1999), 'Science's new social contract with society', *Nature*, *402*.

Havas, A., Schartinger, D. and Weber, M. (2010), 'The impact of foresight on innovation policy-making: recent experiences and future perspectives', *Research Evaluation*, *19*(2), 91–104.

Hirschman, A. (1958), *Strategy of Economic Development*, New Haven,CT: Yale University Press.

Infante, R. and Sunkel, O. (2009). Chile: hacia un desarrollo inclusivo, *Revista de la CEPAL* 97, 135-154.

Irvine, J. and Martin, B. R. (1984), *Foresight in science: picking the winners*. Pinter London.

Kakwani, N. and Pernia, E. (2000), 'What is Pro-poor Growth', *Asian Development Review*, Vol. 16, No.1, 1-22

Kaufmann, A. and Tödtling, F. (2001), ‹Science–industry interaction in the process of innovation: the importance of boundary-crossing between systems›, *Research Policy*, *30*(5), 791–804.

Kingiri, Ann. (2011), 'Gender and Agricultural Innovation: Revisiting the Debate from an Innovation Systems Perspective', *Globelics Conference in Buenos Aires*, 2011.

Johnson, B. (1992), 'Institutional Learning', in Lundvall (Ed.), *National Systems of Innovation*, Pinter Publishers.

Laestadius, S. (1998), 'The relevance of science and technology indicators: the case of pulp and paper', *Research Policy*, *27*(4), 385–395.

Laestadius, S. (2000), 'Biotechnology and the Potential for a Radical Shift of Technology in Forest Industry', *Technology Analysis & Strategic Management*, *12*(2), 193–212.

Loveridge, D. (2005), 'Inclusive foresight', *Foresight*, *7*(3), 31–47.

Lundvall, B.-Å. (1985), 'Product Innovation and User-Producer Interaction', *Analysis*, (31).

Lundvall, B. A. (Ed.). (1992), *National Systems of Innovation – Towards a Theory of Innovation and Interactive Learning*. *Analysis*. London: Pinter.

Lundvall, B. A. and Johnson, B. (1994), 'The Learning Economy.' *Journal of Industry Studies 1*(2).

Lundvall, B.-Å., B. Johnson, et al. (2002), 'National systems of production, innovation and compe-tence building', *Research Policy 31.*

Martin, B. R. and Johnston, R. (1999), 'Technology foresight for wiring up the national innovation system: experiences in Britain, Australia, and New Zealand', *Technological Forecasting and Social Change*, *60*(1), 37–54.

Marshall, A. (1890), *The Principles of Economics*, London: Macmillan.

Marx, K. (1971,1859), *A Contribution to the Critique of the Political Economy*, S. W. Ryanzanskaya trans. and ed. London: Lawrence and Wishhart.

Miles, I. (2010), 'The development of technology foresight: A review', *Technological Forecasting and Social Change*, *77*(9), 1448–1456.

Müller, J. (Ed.) (2011), *Making Ends Meet. Local socio-technological transformations in the South, based on case studies from Tanzania*, Department of Development and Planning, Aalborg University.

Myrdal, G. (1968), *Asian Drama. An Inquiry into the Poverty of Nations, Volume I*. Penguin Books.

Ostrom, E. (1996), 'Crossing the Great Divide: Coproduction, Synergy, and Development', *World Development*, Vol. 24, No. 6, pp. 1073-1087.

Ostrom, E. (2005), Policies that crowd out reciprocity and collective action. Cambridge, Massachusetts: The MIT Press.

Parto, Saed; Hozyainova, Anastasiya; Mihran, Rozbih; (2011), 'Gender and the Agricultural Innovation System in Rural Afghanistan: Barriers and Bridges'. *Globelics Conference in Buenos Aires,* 2011.

Platonova, Inna (2011), 'International Development Partnerships and Diffusion of Renewable Energy Technologies in Off-Grid Communities in Developing Countries: Exploratory Study in Talamanca, Costa Rica', *Globelics Conference in Buenos Aires*, 2011.

Rodrik, D. (2006), 'Goodbye Washington Consensus, Hello Washington Confusion? A Review of the World Bank's Economic Growth in the 1990s: Learning from a Decade of Reform', *Journal of Economic Literature*, *44*(4), 973-987.

Rodrik, D. (2010), 'Diagnostics before prescription', *The Journal of Economic Perspectives*, *24*(3), 33–44.

Roy, Prokash; Chakraborty, Niladri; Bardhan, Suchandra (2010), 'Rural Sustainability Issues in Developing Economies: A case study of Sagar Island, India', *Globelics Conference in Kuala Lumpur*, 2010.

Scitovsky T. (1976), *The Joyless Economy: An Inquiry into Human Satisfaction and Consumer Dissatisfaction*, Oxford. Oxford University Press.

Scott, W. R. (2001), *Institutions and Organizations,* Thousand Oaks, California: Sage.

Sen, A. (1999), Development as Freedom, Anchor Books.

Sen, A. (2000), *Social exclusion: Concept, application, and scrutiny*. *Social Development*.

Sen, A. (2010), *The Idea of Justice*, Penguin Books. First published by Allen Lane 2009.

Smits, R. and Kuhlmann, S. (2004), 'The rise of systemic instruments in innovation policy', *International Journal of Foresight and Innovation Policy*, *1*(1/2), 4.

Smits, R., Merkerk, R. van, Guston, D. H. and Sarewitz, D. (2010), 'The Role of Technology Assessment in Systemic Innovation Policy' in R. E. Smits, S. Kuhlmann and P. Shapira (Eds.), *The Theory and Practice of Innovation Policy: An International Research Handbook*.

Soumonni, Ogundiran (2010), 'Distributed Generation: An alternative paradigm for electrification in West Africa', *Globelics Conference in Kuala Lumpur*, 2010.

Veblen, T. (1918), *The Instinct of Workmanship and the State of the Industrial Arts*, Reprinted 1964, New York: Agutus M. Kelley.

Vinck, Dominique; Cholez, Céline; Trompette, Pascale; Reverdy, Thomas (2010), 'Bridging access to electricity and BOP Markets: the paradoxical frontiers of consumption and aid to the poorest populations', *Globelics Conference in Kuala Lumpur*, 2010.

Weber, S. and Bussell, J. (2005), 'Will Information Technology Reshape the North-South Asymmetry of Power in the Global Political Economy?', *Studies in Comparative International Development,* Vol. 40, No. 2, 62-84.

Wehrmeyer, W., Clayton, A. and Lum, K. (2003), 'Foresighting for Development', *Greener Management International*, (37), 24–36.

World Bank (1998), *The World Development Report 1998/99*.

World Bank (2004), 'Indigenous Knowledge: Local Pathways to Global development', *IK Notes published by the Knowledge and Learning Group*, Africa Region, The World Bank.

World Bank (2010), *Innovation Policy. A Guide for Developing Countries,* The World Bank, Washington, DC.

10 Appendix

10.1 Relevant reference literature on inclusive development

10.1.1 ADB – Asian Development Bank

ADB - Asian Development Bank (2011), *Understanding poverty in India*. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/understanding-poverty-india.pdf

ADB - Asian Development Bank (2010), *Access to justice for the urban poor: toward inclusive cities*. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/pub/2010/access-to-justice.pdf

ADB - Asian Development Bank (2010b), *Poverty and sustainable development in Asia: impacts and responses to the global economic crisis*. Bauer, A and Thant, M. (Eds.). ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/pub/2010/poverty-sustainable-development-asia.pdf

Ali, I. (2007), 'Pro-poor to inclusive growth: Asian prescriptions', *Economics and Research Department Policy Brief Series* N°. 48. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/pub/2007/PB048.pdf

Ali, I. and Zhuang, J. (2007), 'Inclusive growth toward a prosperous Asia: policy implications', *Economics and Research Department Policy Brief Series* N°. 97. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/pub/2007/WP097.pdf

Jagannathan, S. (2012), 'Skills for inclusive and sustainable growth in developing Asia and the Pacific', *ADB Briefs* N°. 10. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/pub/2012/sustainable-growth-asia-pacific.pdf

Kanbur, R. and Rauniyar, G. (2009), 'Conceptualizing inclusive development: with applications to rural infrastructure and development assistance', *Occasional Paper* N°. 7. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/OP7-conceptualizing-inclusive-development.pdf

Klasen, S. (2010), 'Measuring and monitoring inclusive growth: multiple definitions, open questions, and some constructive proposals', *ADB Sustainable Development Working Paper Series*, N°. 12. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/pub/2010/ADB-WP12-measuring-inclusive-growth.pdf

McKinley, T. (2010), 'Inclusive growth criteria and indicators: an inclusive growth index for diagnosis of country progress', *ADB Sustainable Development Working Paper Series*, N°. 14. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/pub/2010/ADB-WP12-measuring-inclusive-growth.pdf

Rauniar, G. and Kanbur, R. (2009), 'Inclusive growth and inclusive development: a review and synthesis of Asian development bank literature', *Occasional Paper* N°. 8. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/OP8-inclusive-growth-development.pdf

Steinberg, F. and Lindfield, M. (2011), 'Inclusive cities', *Urban Development Series*, ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/inclusive-cities.pdf

Wan, G. and Francisco, R. (2009), 'Why is access to basic services not inclusive? A synthesis with a special focus on developing Asia, *ADB Sustainable Development Working Paper Series*, N°6. ADB - Asian Development Bank. Available on: http://www.adb.org/sites/default/files/pub/2009/ADB-WP06-Barriers-Service-Delivery.pdf

10.1.2 DANIDA – Danish International Development Agency

DANIDA - Danish International Development Agency (2012), *The right to a better life: strategy for Denmark's development cooperation*. Danish International Development Agency. Available on: http://um.dk/en/~/media/UM/English-site/Documents/Danida/Goals/Strategy/13287_DANIDA_strategiformidling_UK_web%20NY.ashx

10.1.3 IADB - Inter-American Development Bank

Aduan, W. E. (2004), *Integral policies of poverty reduction: the challenge of effectiveness,* Sustainable Development Department. Poverty and Inequality Unit, IADB - Inter-American Development Bank. Available on: http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=611621

IADB - Inter-American Development Bank (2004), *Social inclusion and economic development in Latin America*. IADB - Inter-American Development Bank. Available on: http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=419947

10.1.4 IDRC - International Development Research Centre

IDRC - International Development Research Centre (2011), *Innovating for development,* IDRC - International Development Research Centre. Available on: http://www.idrc.ca/EN/AboutUs/Accountability/AnnualReports/Annual%20Report%202010-2011.pdf

IDRC - International Development Research Centre (2012), *Sustainable cities*. Practical Action Publishing. IDRC - International Development Research Centre. Available on: http://idl-bnc.idrc.ca/dspace/bitstream/10625/48847/1/IDL-48847.pdf

10.1.5 ILO – International Labour Organization

Bachelet, M. (2011), *Social protection floor for a fair and inclusive globalization.* Report of the Social Protection Floor. Advisory Group. Geneva, International Labour Office. Available on: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_165750.pdf

ILO - International Labour Organization (2012), *Working towards sustainable development: opportunities for decent work and social inclusion in a green economy*. International Labour Office. Available on: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_181836.pdf

ILO - International Labour Organization (2011), 'Growth, employment and decent work in the least developed countries', *Report of the International Labour Office for the Fourth Conference on the Least Developed Countries*, Istanbul, 9-13 May 2011 - International Labour Office. Available on: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_153868.pdf

ILO - International Labour Organization (2011b), 'Promoting decent work in a green economy', *ILO Background Note to Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradi-*

cation, UNEP – United Nations Environment Program, 2011. Available on: http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_policy/documents/meetingdocument/wcms_162986.pdf

Sachs, I. (2004), 'Inclusive development strategy in an era of globalization', *Working paper N°. 35. Policy Integration Department World Commission on the Social Dimension of Globalization. International Labour Office*, Available on: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/publication/wcms_079129.pdf

UN-CEB Cluster on Trade and Productive Capacity (2011),'Development of productive capacities and trade: the key to inclusive and sustainable growth', *Fourth United Nations Conference on the Least Developed Countries (LDC-IV)*, Istanbul, 9 May 2011. Available on: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/meetingdocument/wcms_154977.pdf

10.1.6 IMF – International Monetary Fund

Berg, A. G. and Ostry, J. D. (2011), *Inequality and unsustainable growth: two sides of the same coin?* IMF Staff Discussion Note. Available on: http://www.imf.org/external/pubs/ft/sdn/2011/sdn1108.pdf

Coibion, O., Gorodnichenko, Y. and Kueng, L. (2012), 'Innocent bystanders? Monetary policy and inequality in the US', *IMF Working Paper*. Available on: http://www.imf.org/external/pubs/ft/wp/2012/wp12199.pdf

IMF - International Monetary Fund (2008), *Global monitoring report 2008: MDGs and the environment; agenda for inclusive and sustainable development*, International Monetary Fund and the World Bank. Available on: http://www.imf.org/external/pubs/ft/gmr/2008/eng/gmr.pdf

IMF - International Monetary Fund (2011), 'How inclusive has Africa's recent high-growth episode been?'Chapter 2 in *Regional Economic Outlook: Sub-Saharan Africa*. Available on: http://www.imf.org/external/pubs/ft/reo/2012/afr/eng/sreo0412.pdf

Singh, A., Jain-Chandra, S. and Mohommad, A. (2012), 'Inclusive growth, institutions, and the underground economy', *IMF – International Monetary Fund Working Paper*. Available on: http://www.imf.org/external/pubs/ft/wp/2012/wp1247.pdf

Walsh, J. P. and Yu, J. (2012), 'Inflation and income inequality: is food inflation different?', *IMF – International Monetary Fund Working Paper*. Available on: http://www.imf.org/external/pubs/ft/wp/2012/wp12147.pdf

10.1.7 OECD – Organization for Economic Cooperation and Development

De Mello, L. and Dutz, M. A. (Eds.) (2012), *Promoting inclusive growth: challenges and policies*. OECD Publishing. Available on: http://dx.doi.org/10.1787/9789264168305-en

OECD - Organization for Economic Cooperation and Development (2012), 'From aid to development: the global fight against poverty', *OECD Insights*, OECD Publishing. Available on: http://dx.doi.org/10.1787/9789264123571-en

OECD - Organization for Economic Cooperation and Development (2012), *OECD Yearbook 2012: Better Policies for Better Lives*. OECD Publishing. Available on: www.oecd.org/about/publishing/oecd-yearbook2012.htm

OECD - Organization for Economic Cooperation and Development (2012), 'Tackling income inequality: the role of taxes and transfers', *OECD Journal: Economic Studies.* Available on: http://dx.doi.org/10.1787/eco_studies-2012-5k95xd6l65lt

OECD - Organization for Economic Cooperation and Development (2011), *Development co-operation report 2011.* 50th anniversary edition. OECD Publishing. Available on: http://dx.doi.org/10.1787/dcr-2011-en

OECD - Organization for Economic Cooperation and Development (2011), *Divided We Stand: Why Inequality Keeps Rising*. OECD Publishing. Available on: http://dx.doi.org/10.1787/9789264119536-en

OECD - Organization for Economic Cooperation and Development (2011), *Development Perspectives on global development 2012: social cohesion in a shifting world*. OECD Publishing. Available on: http://dx.doi.org/10.1787/persp_glob_dev-2012-en

10.1.8 SIDA - Swedish International Development Cooperation Agency

Kabeer, N. (2009), *Women's economic empowerment: key issues and policy options*. Swedish International Development Cooperation Agency. Available on: http://sidapublications.citat.se/interface/frmoptimaker3.asp?doctype=3&order=createdate%20DESC&departmentid=298&topheight=55&headerheight=23&fotheight=0&leftframewidth=300&width=820&stylesheet=sida.css&frameout=0&language=14&login=True&username=sida2&password=sida2

Mowjee, T. and Randel, J. (2010), *Evaluation of SIDA's humanitarian assistance: final synthesis report*. SIDA - Swedish International Development Cooperation Agency. Available on: http://sidapublications.citat.se/interface/frmoptimaker3.asp?doctype=3&order=createdate%20DESC&departmentid=298&topheight=55&headerheight=23&fotheight=0&leftframewidth=300&width=820&stylesheet=sida.css&frameout=0&language=14&login=True&username=sida2&password=sida2

10.1.9 UN – United Nations

Saad Filho, A. (2010), 'From Washington consensus to inclusive growth: the continuing relevance of pro-poor policy alternatives', *World Economic and Social Survey 2010*. Available on: http://www.un.org/esa/analysis/wess/wess2010workshop/wess2010_filho.pdf

UN - United Nations (2012), 'The future we want', *General Assembly 24 July 2012*, Sixty-sixth session - agenda item 19: sustainable development. United Nations. Available on: http://daccess-dds-ny.un.org/doc/UNDOC/LTD/N12/436/88/PDF/N1243688.pdf?OpenElement

UN - United Nations (2009), *Rethinking poverty: report on the world social situation 2010*. United Nations. Available on: http://www.un.org/esa/socdev/rwss/docs/2010/fullreport.pdf

UN - United Nations System Task Team (2012), 'Macroeconomic stability, inclusive growth and employment', *UN System Task Team on the Post-2015 UN Development Agenda*. Thematic Think Piece ILO, UNCTAD, UNDESA, WTO. Available on: http://www.un.org/millenniumgoals/pdf/Think%20Pieces/12_macroeconomics.pdf

UNIDO - 10.1.10 United Nations Industrial Development Organization

UNIDO - United Nations Industrial Development Organization (2008), *Public goods for economic development*. UNIDO - United Nations Industrial Development Organization. Available on: http://www.unido.org/fileadmin/user_media/Publications/documents/Public%20goods%20for%20economic%20development_sale.pdf

UNIDO - United Nations Industrial Development Organization (2008), *Networks for prosperity: achieving development goals through knowledge sharing*. UNIDO - United Nations Industrial Development Organization. Available on: http://www.unido.org/fileadmin/user_media/News/2011/UN%20Report%20LowRes.pdf

10.1.11 World Bank

Chen, S. and Ravallion, M. (2012), 'More relatively-poor people in a less absolutely-poor world', *Policy Research working paper* N°. WPS 6114. The World Bank. Available on: http://documents.worldbank.org/curated/en/2012/07/16458176/more-relatively-poor-people-less-absolutely-poor-world

Go, D. and Swanson, E. (2010), *The millennium development goals and the road to 2015: building on progress and responding to crisis*. The World Bank. Available on: http://documents.worldbank.org/curated/en/2010/01/12810332/millennium-development-goals-road-2015-building-progress-responding-crisis

Ivanyna, M. and Shah, A. (2012), 'How close is your government to its people? Worldwide indicators on localization and decentralization', *Policy Research Working Paper* No. WPS 6138. The World Bank. Available on: http://documents.worldbank.org/curated/en/2012/07/16516399/close-your-government-people-worldwide-indicators-localization-decentralization

Mansuri, G. and Rao, V. (2012), 'Can participation be induced? Some evidence from developing countries', *Policy Research working paper* N°. WPS 6139. The World Bank. Available on: http://documents.worldbank.org/curated/en/2012/07/16520074/can-participation-induced-some-evidence-developing-countries

Moreno-Dodson, B. (2006), 'Reducing poverty on a global scale', *PREM Notes* N° 110. PREM Anchor. The World Bank. Available on: http://documents.worldbank.org/curated/en/2006/08/7286830/reducing-poverty-global-scale

World Bank (2012), *A new local agenda: democracy, inclusive development and environmental sustainability*. The World Bank. Available on: http://documents.worldbank.org/curated/en/2012/06/16505553/new-local-agenda-democracy-inclusive-development-environmental-sustainability

World Bank (2008), *The growth report: strategies for sustained growth and inclusive development*. The World Bank. Available on: http://documents.worldbank.org/curated/en/2008/06/9781072/growth-report-strategies-sustained-growth-inclusive-development

10.2 Inclusive innovation papers from Globelics Conferences

The list consists of two main categories. Papers that have inclusive innovation as a central theme and papers that have it as a marginal theme. Within these overall categories the papers are further divided into subcategories reflecting the complexity of social inclusion as a topic.

10.2.1 Central papers

10.2.1.1 Bottom of the Pyramid

Choles, Celine, Trompette, Pascale, Vinck, Dominique, Reverdy, Thomas. (2010), 'Bridging Access to Electricity and BOP Market: The Paradoxical Frontiers of Consumption and Aid to the Poorest Populations', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

Li, Julia Fan, Garnsey, Elizabeth, (2011), 'Tuberculosis Vaccines: Innovators West and East', *The 9th Globelics International Conference in Buenos Aires – Argentina*, 2011.

Ramani, Shyama V., Mukherjee, Vivekananda, (2011), 'Can Radical Innovations Serve the Poor (BOP) and Create Reputational (CSR) Value? Indian Case Studies', *The 9th Globelics International Conference in Buenos Aires – Argentina*, 2011.

10.2.1.2 Inclusive Development

Fan, Yilin, Wu, Xiabo, (2010), 'The Reconstruction of Innovation Systems for Inclusive Development - Evidence from China', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

Jiang, Yanbin, (2011), 'Methods to Reduce Transaction Costs and to Establish Low Transaction Cost Environments for Inclusive Development', *The 9th Globelics International Conference in Buenos Aires – Argentina*, 2011.

Maharajh, Rasigan, Scerri, Mario. (2010), 'Economic Growth and Human Development in Africa', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

Wu, Xiabo, Jiang, Yanbin. (2010), 'The Formation Process Towards a More Inclusive System: Comparison Study on Suzhou and Wenzhou', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

10.2.1.3 Inclusive Innovation

Al-Bader, Sara. (2010), 'Features of Science-Based Innovation in Ghana, and Implications for Approaches to African Innovation: An Empirical Study', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

Arocena, Rodrigo, Sutz, Judith. (2010), 'Research and Innovation Policies for Social Inclusion: Is There an Emerging Pattern?', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

Ismail, Tashmia, Masinge, Khumbula. (2011), 'Mobile Banking: Innovation for the Poor', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Lorentzen, Jo, 'Food on the Table and Disease at the Door: Insights from Low Income Countries and Regions for Measuring Innovation'. *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

Peuckert, Jan. (2010), 'Urban Water Innovation Systems in Newly Industrialized Countries: Brazil, China, India and South Africa', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Platonova, Inna. (2011), 'International Development Partnerships and Diffusion of Renewable Energy Technologies in Off-Grid Communities in Developing Countries: Exploratory Study in Talamanca, Costa Rica', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Roy, Prokash C., Chakraborty, Niladri, Badhan, Suchandra. (2010), 'Rural Sustainability Issues In Developing Economies: A Case Study Of Sagar Island, India', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Sadre-Ghazi, Shuan. (2011), 'Challenges of Corporate Involvement in Pro-poor Innovation', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Simiyu, Ken. (2010), 'Business Models in Health Innovation in Africa: The Case of an African Research Institute', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Vinanchiarachi, Jebamalai. (2010), 'Science, Technology and MDGs: The Role of Linking, Leveraging and Learning', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

10.2.1.4 Inclusive Learning

Brudenius, Claes and Goransson, Bo. (2010), 'The Role of the Three Missions of Universities - A Synthesis of Findings from an International Research Project', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Hernández, José Luis Sampedro, Vera-Cruiz, J. Alexandre Oliveira and González, Claudia R. (2011), 'Learning and Entrepreneurship in the Agricultural Sector: Building Entrepreneurial Capacities in Young Farmers', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Kiani, Adiqa Kausar. (2010), 'A Significant Impact of Child Labour in Pakistan', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Kruss, Glenda. (2010), 'How Do Universities Develop Interactive Capabilities to Promote Social Innovation and Development in Africa?', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Loumou, Désiré. (2010), 'To What Extent Can Research Exemptions Promote Innovation?', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

10.2.1.5 Informal Sector

Kathuria, Vinish, Raj, Rajesh and Sen, Kunal. (2011), 'The Effects of Economic Reforms on Manufacturing Dualism: Evidence from India', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Konte, Almamy and Ndong, Mariama. (2011), 'Innovation Process in the Informal Sector of ICT in Senegal', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

10.2.1.6 Local Development

Cummings, Andrew Roberts. (2010), 'Networking and Interacting Learning Capabilities as Keys to Innovative Performance in Rural Economic Initiatives in El Salvador', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Cummings, Andrew and Cogo, Eleonora. (2011), 'ACOPANELA Cooperative's Networking Capabilities and Innovative Performance, Producing and Marketing Natural Raw Sugar - Panela - For Dynamic Markets', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Soumonni, Ogundiran. (2010), 'Distributed Generation: An Alternative Paradigm for Electrification in West Africa', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

10.2.1.7 Millennium Development Goals

Cortes-Lobos, Rodrigo. (2011), 'Can Agri-food Nanotechnology Contribute to Achieve the Millennium Development Goals in Developing Countries?', *The 9th Globelics International Conference in Buenos Aires – Argentina*, 2011.

Cozzens, Susan and Cortes, Rodrigo. (2011), 'Nanotechnology and the Millennium Development Goals: Water, Energy, and Agri-food', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

10.2.1.8 Poverty Alleviation

Bahinipati, Chandra Sekhar. (2010), 'Economic Implications of Extreme Events in Orissa, India: An Analysis of Trend since 1970', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

Mahmuda, Ismat, Baskaran, Angathevar and Pancholi, Jatin. (2010), 'Financing Social Innovation: The Case of Micro Financing of BRAC'S CPFR Programme in Bangladesh', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Rao, Kasina V., Ramamrithan, Krithi and Sonar, R. M. (2010), 'AGROCOM: Agriculture Knowledge Poverty Alleviation through Innovative Mobile SMS Intervention', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Sonne, Lina. (2010), 'Supporting Entrepreneurship and Innovation at the Grassroots: Beyond Microfinance', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

10.2.1.9 Social Inclusion

Afolabi, Michael O. S. and Okerin, Ikeolu O. (2010), 'Vaccine-Preventable Diseases: An Examination of Measles and Polio in Nigeria', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

Alzugaray, Santiago, Mederos, Leticia and Sutz, Judith (2011), 'Building Bridges: Social Inclusion Problems as Research and Innovation Issues', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Catalan, Pablo (2011), 'The Dynamics of Communitarian Innovation: The Case of Rural Water Supply and Sanitation (WSS) Systems in Costa Rica', *The 9th Globelics International Conference in Buenos Aires – Argentina*, 2011.

Chataway, Joanna, Hanlin, Rebecca, Mugwagwa, Julius and Muraguri, Lois (2010), 'Global Health Social Technologies: Reflection on Evolving Theories and Landscapes', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Chowdhury, Samik (2010), 'Health Shocks and the Urban Poor: A Case Study of Slums in Delhi', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Dhamankar, Mona (2011), 'Development NGOs as Innovation Intermediaries: Preliminary Learnings from Study of Intermediation Processes in Smallholder Dairy Innovation Systems', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Guennif, Samira. (2010), *'IPR and Other Institutional Matters Influencing Medicines Accessibility in Thailand'*, *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Habitaremye, Alexis and Gachino, Geoffrey (2010), 'Optimal Patent Protection for Pharmaceuticals'. *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Hu, Ruifa, Cai, Yaqing, Chen, Keven and Huang, Jihun (2010), 'Effects on Inclusive Public Agricultural Extension Service: Results from a Policy Reform Experiment in Western China', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia*, 2010.

Olivier, Koudou Zohore and Gregoire, Guei Sosthene Auguste (2010), 'Accessibility of Health Services in West Africa: The Case of Ivory Coast', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Santos, Guillermo, Becerra, Lucas (2011), 'Learning and Insights from Management Technologies for Social Inclusion: A Socio-Technical Analysis of the Drug Production Unit of Talleres Protegidos de Rehabilitación Psiquiátrica de la Ciudad de Buenos Aires', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Saikia, Abhinandan and Bhaduri, Saradindu (2010), 'Institutional Design and Occupational Opportunity: The Case of Shifting Cultivators in Nagaland', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Togba, Edith L. (2010), 'Where Do We Stand with Financial Innovations in Sub-Saharan Countries? The case of Côte D'Ivore', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Zakariaou, Njoumemi, Ntep, Marcelline and Epo, Boniface Ngah. (2010), 'State Financial Contribution to the Fight against Onchocerciasis in Cameroon', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

10.2.1.10 Women Inclusion

Ahmad, H. Mushtaq and Naimat, Shazia. (2010), 'Networking and Women Entrepreneurs: Beyond Patriarchal Traditions', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Chopra, Vrinda (2010), 'Building Capacities of Women in Habitat Services - Challenging Tradition, Driving Innovation', *The 8th Globelics International Conference in Kuala Lumpur – Malaysia,* 2010.

Kingiri, Ann. (2011), 'Gender and Agricultural Innovation: Revisiting the Debate from an Innovation Systems Perspective', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

Parto, Saed, Hozyainova, Anastasiya and Mihran, Rozbih (2011), 'Gender and the Agricultural Innovation System in Rural Afghanistan: Barriers and Bridges', *The 9th Globelics International Conference in Buenos Aires – Argentina,* 2011.

10.2.2 Marginal papers

10.2.2.1 Conference: Kuala Lumpur, 2010

Concept: Local Development

Ndoye Niane and Aifa Fatimata, *Household Profit Optimization and the Efficiency of Labour Contract Choice across Irrigation Technology.*

Ayinde, O. E., Mammo, M., Omotesho, O. A. and Adewumi, M. O., *Multi-Risk Model of Small Scale Agricultural Entrepreneurs in Central part of Nigeria.*

Brata, Aloysius Gunadi, *Social Networks and Innovation (Handicraft Industry in Bantul, Yogyakarta).*

Nakalanda, Dilupa, Turpin, Tim and Sloan, Terrence, *Strategic Learning and Leveraging of Foreign Technology by Entrepreneurial Firms in the Technological Development Process - Case Studies from the Sri Lankan Garment Accessories Industry.*

Essemu, Timothy and Wood, Eric, *Firm Innovation Activity and Financial Performance Improvement in the Fish Processing and Export Sector in Uganda.*

Concept: Inclusive Learning

Alder-Currie, Bruce, *Funding research for Development: Insights on How Organizations Evolve Grant-Making Strategy.*

Fagerberg, Jan, *Knowledge, Capabilities and the Poverty Trap: The Complex Interplay between Technological, Social and Geographical Factors.*

Concept: Local Development, Inclusive Learning

Ama, Njoku Ola and Fonbad, Charles Manga, *Patenting and its effect on research capacity and utilization.*

Concept: Poverty Alleviation

Siegel, Melissa and Fransen, Sonja, *New technologies in remittances sending: Opportunities for mobile remittances in Africa.*

Marin, Anabel, Navas-Aleman, Lisbete and Perez, Carlota, *The possible dynamic role of natural resource-based networks in Latin American development strategies.*

Concept: Social Inclusion

Omotor, D. G. and Orubu, C. O., *Searching for Environment Kuznets Curves of Some Basics in Africa.*

Ramachander, Sangamitra, *The willingness to pay for mobile telephony services among low income households in six countries in Asia.*

Concept: Bottom of the Pyramid

Kaplinsky, Raphael, *Schumacher meets Schumpeter: Appropriate Technology below the radar.*

Concept: Inclusive Development

Huang, Zuhui, Wang, Feng, Ye, Chunhui and Liang, Meng, *Entrepreneurs Synergy, Innovation and Formation of Industrial Cluster: A case study from Shanxiahu, China.*

Thomas, Jayan José, *An uneasy coexistence: The new and the old in India Industry and Services.*

Concept: Inclusive Development, Informal Sector

Parthasarathy, Balaji and Ranganathan, V., *The national innovation system in India and its globalization.*

Concept: Inclusive Innovation

Hanlin, Rebecca, *Building capacity through innovation for integrated health solutions in developing countries.*

Sangar, Sunita and Singh, Wafa, *Enabling poverty relevance of Azzoaspitillum Bio-Innovation: Lessons from Eco-Enterprises in Tamil Nadu, India.*

10.2.2.3 Conference: Buenos Aires, 2011

Concept: Inclusive Innovation

Bianchi, Carlos, *The role of innovation policies in the Brazilian biotechnology-health regime.*

Edwards-Schachter, M., Alcantara, E. and Matti, C.P., *Fostering quality of life through social innovation: a Spanish case-study.*

Concept: Local development

Cabezas, Sergio Raúl, Laría, Patricia Inés and Rama, Verónica, *Wind Energy in Rio Negro: A New Industrial District at Patagonia (Argentina).*

Nakandala, Dilupa and Turpin, Tim, *Local Firms' Response to Changing Foreign Partnership Characteristics? Dynamic Technology Management Strategies of Firms in Sri Lanka.*

Mohamad, Zeeda Fatimah and Idris, Noorshahzila, *Role of religious communities in enhancing transition experiments: A localised strategy for sustainable solid waste management in Malaysia.*

Das, Bibhu Nandini, *Dissemination of Knowledge in Agriculture: Where Does Old ICT Stand in Disseminating Knowledge among Farmers?*

Concept: Social Inclusion

Hartmann, Dominik and Pyka, Andreas, *Innovation, economic diversification and human development.*

Fressoli, Mariano, Smith, Adrian and Thomas, Hernán, *From appropriate to social technologies: some enduring dilemmas in grassroots innovation movements for socially just futures.*

Nurse, Keith, *Innovation Governance for Sustainability and Social Inclusion in the Caribbean.*

Concept: Local development, Inclusive Learning, Women's Inclusion

Orozco, Jeffery and Duran, Roxana, *Challenges and opportunities for SMES leaded by women in the context of CAFTA-DR.*

Concept: Women's Inclusion

Ca, Tran Ngoc, Goransson, Bo, *Toward a gender-inclusive innovation pattern in ICT: the case of Vietnam.*

Concept: Inequality

Kakarlapudi, Kirian Kumar, *Impact of Technological Change on Wage Inequality: Evidence from Indian Manufacturing under Globalization.*

Concept: Bottom of the pyramid

Parthasarathy, Balaji and Ranganathan, V., *The role of regions in supporting the emergence and growth of* Global *Innovation Networks: The case of Bangalore, India.*

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