

**BTC**

**BELGIAN  
DEVELOPMENT AGENCY**



# ***AGRICULTURE***

## ***AS A MOTOR OF PRO-POOR GROWTH***

***SEMINAR PROCEEDINGS  
BRUSSELS, 16-17 DECEMBER 2009***



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**About BTC**

The Belgian development agency, BTC, mobilises its resources and its expertise to eliminate poverty in the world. BTC contributes to the efforts of the international community and works towards a society that provides present and future generations with sufficient resources to build a sustainable and fair world.

Its staff members in Brussels and overseas embody the commitment of the Belgian State and other development partners to international solidarity. They support cooperation projects and programmes in some 20 countries in Africa, Asia and Latin America.

BTC listens, gives advice and puts the experience of its staff to the disposal of its partners. Its staff members look for innovative solutions to the challenges set by a continuously more complex environment. To support the development processes BTC provides services that are characterized by transparency and integrity, which are essential values in a relation of trust.

The organisers would like to thank everyone involved in the seminar 'Agriculture as a motor of pro poor growth', both within and outside of BTC, for their input, their support and the time and energy they invested in making the seminar and its proceedings possible. We are particularly grateful to all the speakers for their contributions and papers, the moderators of the discussions (Paul Verle (BTC), Marcus Leroy (DGD), Judith Francis (CTA) and Dominique Morel (BTC)) and all the participants for their presence and their critical comments.

Jan Corluy, Laurence Defrise, Sofie Van Waeyenberge and Paul Verle: the seminar team.

# **CONTENTS**

<b>INTRODUCTION</b>	<b>6</b>
<b>SUMMARY</b>	<b>7</b>
<b>OPENING SPEECH</b>	<b>10</b>
Charles Michel, Belgian Minister of Development Cooperation	
<b>SESSION 1: AGRICULTURE AND PRO-POOR GROWTH: CHALLENGES AND OPPORTUNITIES</b>	<b>12</b>
<b>Challenges in agriculture development in a changing global context</b>	<b>13</b>
Pauline C. Zwaans, World Bank, Washington DC	
<b>Agricultural development: dealing with the awkward sector?</b>	<b>16</b>
Steve Wiggins, Overseas Development Institute, UK	
<b>Comprehensive African Agriculture Development Programme (CAADP)</b>	<b>26</b>
Ousmane Djibo, NEPAD/CAADP, South Africa	
<b>Reflections of a discussant from the “Right to Food”-perspective</b>	<b>27</b>
Olivier De Schutter, UN, Belgium	
<b>Discussion session 1</b>	
<b>SESSION 2: AGRICULTURAL POLICIES FOR PRO-POOR GROWTH</b>	<b>33</b>
<b>Revisiting the agricultural policy architecture</b>	<b>34</b>
Luc Christiaensen, UNU-WIDER, Finland	
<b>The role of farmers’ organisations in pro-poor policy process</b>	<b>38</b>
Chengal Reddy, Consortium of Indian Farmers Associations (CIFA), India	
<b>Development partners and support to pro-poor agricultural policies</b>	<b>41</b>
Lars Christian Oxe, Danida, Denmark	
<b>Reflections of a discussant from a NGO’s perspective</b>	<b>43</b>
Gert Engelen, Vredeseilanden, Belgium	
<b>Discussion session 2</b>	<b>44</b>
<b>SESSION 3: AGRICULTURAL RESEARCH, EXTENSION AND INNOVATION</b>	<b>48</b>
<b>Challenges of pro-poor agricultural research and innovation for Africa</b>	<b>49</b>
Monty Jones, Forum for Agriculture and Research in Africa (FARA), Ghana	
<b>From lab to farm: demand-driven agricultural services as part of a bigger picture of innovation</b>	<b>51</b>
Bertus Wennink, Royal Tropical Institute (KIT), The Netherlands	

<b>Down To Earth: Innovation Into Practice</b>	<b>54</b>
Guy Mergeai, Gembloux Agro-Bio Tech, University of Liege, Belgium	
<b>Innovations in the dairy sector in Vietnam</b>	<b>56</b>
Raf Somers, BTC Vietnam. Do Kim Tuyen & Hoang Kim Giao, Department of Livestock production, Ministry of Agriculture and Rural Development, Vietnam	
<b>Reflections of a discussant from a farmer's organisations perspective</b>	<b>58</b>
Piet Vanthemsche, Flemish Farmers' Organisation Boerenbond, Belgium	
<b>Discussion session 3</b>	<b>59</b>
<b><i>SESSION 4: GETTING AGRICULTURE AND RURAL ENTREPRENEURSHIP MOVING</i></b>	<b><i>63</i></b>
<b>Increasing agri-food exports and its development implications</b>	<b>64</b>
Miet Maertens, Division of Agricultural and Food Economics, Department of Earth and Environmental Sciences, K.U.Leuven, Belgium	
<b>Support to value chain development</b>	<b>67</b>
Albert Engel, GTZ, Germany	
<b>Challenges to improve access of smallholders to local and international markets</b>	<b>70</b>
Guillermo Maraví Vega Centeno, BTC Peru	
<b>Reflections of a discussant from the private sector perspective</b>	<b>72</b>
Beatrice Gakuba, Rwanda Flora, Rwanda	
<b>Discussion session 4</b>	<b>74</b>
<b><i>SPEAKERS' PROFILES</i></b>	<b><i>78</i></b>

# INTRODUCTION

## THE SEMINAR

In keeping with tradition, The Belgian development Agency (BTC) hosted its 5<sup>th</sup> annual international seminar on 16 & 17 December 2009 entitled “Agriculture as a motor of pro-poor growth”.

The two-day seminar brought together representatives of development partners and implementing agencies, international organisations, government bodies, experts on development cooperation projects, farmers organisations, academic institutions, think tanks, NGOs and others to discuss the challenges facing agricultural development.

The seminar intended to focus on poverty reduction through agriculture in development countries. It wanted to look at the issue in a holistic way taking into account both the needs and the actors, and scrutinise the potential of development partners to contribute to pro-poor agriculture development. The seminar set out to bridge the gap between administrators and professionals of different backgrounds, and to use both practical experience and theoretical models as a basis for discussion.

The seminar was structured around four thematic sessions:

- Agriculture and pro-poor growth: challenges and opportunities
- Agricultural policies for pro-poor growth
- Agricultural research, extension and innovation
- Getting agriculture and rural entrepreneurship moving

During each thematic session, keynote speakers presented their contribution to the topic. This was followed by time for discussion and questions, prompted by interventions of discussants.

## THE PROCEEDINGS

This brochure provides a summary of the seminar aiming to capture the momentum of the two days of presentations and debate. It is a compilation of abstracts submitted by speakers and edited transcriptions based on audio recordings made during the seminar. We have also included a selection of the questions and answers from each session.

We hope that this publication will contribute to keeping the importance of agriculture as a motor of pro-poor growth in our minds and on our agendas and mark the beginning, not the end, of the continued expansion of efforts in this field.

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Note: All presentations are available in PDF-format on [www.btcctb.org](http://www.btcctb.org).

## SUMMARY

Agricultural development is key for poverty reduction and pro-poor growth, given its potential to rise farm incomes of the poor, to create jobs for the landless poor, to reduce food prices (the poor are mostly net food buyers), and because of its strong link with the non-farm rural economy. The food crisis of 2007-2008 reinforced that with more than 1 billion chronically hungry people worldwide, greater investment in agriculture is key to halving hunger by 2015.

However, the challenges for agricultural development in a changing global context are numerous. Raising productivity growth, linking farmers to markets, better managing risks and vulnerability, facilitating rural non-farm income, and enhancing environmental sustainability are all necessary to address. Population growth, increased price volatility, climate change and globalization add new challenges.

A favourable investment climate and investments in public goods are straightforward aspects for agricultural development. Governments need to invest in physical infrastructure, social investments and knowledge and information. But other measures are decidedly complex. These include finding ways to tackle market failures, such as uncertain property rights, information failures, monopoly power, externalities and diseconomies of scale. Market failures can indeed be severe and become the mechanism by which people or nations are trapped in poverty. It is still a debate whether these should be tackled by governments or by institutional innovations that would allow markets to work better. While the principles of agricultural development may be clear, implementation of them requires differentiation by place, gender and social context. Still a huge amount of the farmers in developing countries have less than one hectare and do not necessarily possess the necessary resources to intensify and commercialise and to drive forward the economy.

In the light of the new global context, the agricultural policy architecture needs to be revisited. A number of criteria were proposed to evaluate food security policies, such as equity, efficiency, no environmental harm, political feasibility and security. When designing policies, we must be aware that policies are not neutral with regard to favouring the more industrial

model or the more agro-ecological model, and each community has the responsibility to clarify which type of agriculture better responds to its expectations.

The right to food principle obliges us not only to think about increasing productivity, but also to take poverty into account. It should be seen as an instrument to guide policies, to make sure that they take into account the needs of the most vulnerable, and to ensure that policies are accountable to the entire population.

The policy debates on the supply side currently focus on scarcity of natural resources and uncertainty regarding climate change. On the demand side issues such as agro-fuel, the restoration of trust in markets and the necessity of reliable social safety nets are high on the agenda. It is argued that market regulation, price volatility, the political economy of the value chain and the accountability of states all deserve more attention in the global food policy debates. Promotion of domestic food stocks and correct information on global food stocks, revision of WTO regulations on export restrictions and an internationally coordinated food reserve are possible solutions to fight price volatility.

In order to improve the situation of the poor, farmers' organisations need to be strengthened, so that they become professional organisations, that can increase their voice in policy making and monitoring and which can facilitate the establishment of partnerships with the industry, research institutes, governments and international programmes.

Development aid can contribute to agricultural development but the question is not how much more finances are needed, but rather where to spend additional resources on. In a sector characterized by lots of different public and private actors and a high political dimension, aid effectiveness is not straightforward. Government policy objectives should be shared by the private sector and the civil society. The Ministry of Agriculture might not always be the right level for policy dialogue, but it should take place at a higher multi-sectoral level. Development cooperation may play a role here by assisting in building national coalitions for policy formulation.

Reinvestments in agricultural research and extension to deliver services for poor households are urgently needed. However, the institutional setting has become more complex, with among other things the private sector and farmers' organisations moving in. In order to enhance the uptake of new technologies provided by research and extension services, the final users, the smallholder farmers, should participate. The process should also be accompanied by institutional and organisational reforms, particularly of the public sector research and extension organisations.

Innovations should cut across the entire value chain. Generating evidence is required to effectively advocate policies and investments to address the needs of the poor. Support to smallholder dairy farmers in Vietnam demonstrated the essential role of innovation in developing a sector, both at farm level and at the level of price setting and coordination mechanisms. Furthermore, research should empower the poor with knowledge, skills and self-organisation, and should adequately deal with gender aspects. The Forum for Agricultural Research in Africa (FARA), the apex body coordinating and facilitating agricultural research for development in Africa, provides support mainly through networking support functions.

In Asia, the green revolution was driven by the adoption of productivity enhancing inputs to increase yields mainly of rice. However, in Africa, fertiliser use and irrigation are scarce, and heterogeneity in crop production and agro-ecological conditions means that improved varieties for many crops are needed to improve productivity, and that outside technologies are not directly transferable. Often high transaction costs and trade barriers due to underdeveloped infrastructure are additional barriers. The green revolution definitely improved productivity but it also increased inequalities and caused much environmental harm. The concept of a double green revolution has been spreading to designate a production technique that is both more effective and more efficient in terms of energy consumption than the production techniques of the first green revolution, and that should be based on a more rational and effective use of resources. Conservation agriculture is an example of such an agro-ecological production technique.

Support to value chain development becomes increasingly the focus of development co-operations. It is based on the notion that raising productivity of smallholders and linking them to markets is a key element in eradicating poverty. The value chain concept facilitates the use of a systemic perspective on the economy as a whole and delimits areas of action, it avoids working into islands of success and into single areas that have no sustainable benefits and increases in that way institutional and economical sustainability. Value chains require a multi-level approach and it is crucial to look in parallel at the level of enterprises, sector-specific support services, as well as government institutions. In a parallel way territorial approaches should be pursued, focusing on the potentials to develop a region in its entirety. An example of Peru showed how value chains are promoted within a framework of local economic development: the inclusion of small farmers with respect to their culture and ancestral knowledge was promoted, whereby also the heterogeneity of agriculture, land ownership and the diverse ecosystem were taken into account. In order to increase competitiveness of smallholder agriculture, it proved essential to focus on product differentiation and product quality responding to demand. Furthermore building partnerships between different actors in the chain creating mutual benefits, and the creation of a level playing field to ensure equal influence of the different stakeholders, proved to be essential.

High-value trade can bring about important positive effects for rural development and poverty reduction, through product markets but also through employment and labour market effects, particularly for the poorest households. To improve the welfare effects of high-value trade, strategies for inclusive food supply chains and for improved performance of rural labour markets need to be developed. In this way important linkages might exist between the agro-industrial sector and the smallholder sector that bring about positive development effects.

Agriculture is a diverse sector, and while some aspects are simple and straightforward, others such as addressing market failures and differentiating policies to match places, gender and social groups are not. Challenges are many and well known, but pathways

for structural solutions are not always in place. But successes exist, and a lot of institutional innovations have proved to work in specific contexts. There is still a lot to learn and we have to keep on innovating. There is a role for development cooperation to create the space for experimenting with innovations and facilitate the learning process. To improve the situation of the poor farmers, it is crucial to understand their situation and to involve them in all actions.

There is a clear interest of different stakeholders and sector specialists to discuss the various issues. This momentum should not be lost. The platform for agriculture that involves the main actors of the sector in Belgium, is an important instrument to continue to exchange views and to learn from the different experiences. On an international scale several initiatives have been launched which offer promising opportunities.

## **OPENING SPEECH**

**CHARLES MICHEL,**

*Belgian Minister of Development Cooperation*

Ladies and gentlemen,

The Directorate General of Development Cooperation is particularly happy that BTC took the initiative to organise its 5th international seminar on the topic of agriculture and the fight against poverty. Agriculture is indeed a main theme of our development cooperation policy.

Agriculture is a fundamental sector of the economy and, from the point of view of cooperation, a particularly complex field, with many implications, a true Gordian knot. I will evoke only two of its paradoxes: agriculture has to solve hunger in the world and yet more than three quarter of hungry people live in rural area; it is allegedly responsible for a substantial part of carbon emissions and yet it carries the hope to solve part of global warming by contributing to capture carbon.

Even if the food crisis is not a hot topic anymore in the news as it was in 2008, food insecurity remains a reality and a problem that deserves our attention. We have just reached the threshold of one billion people suffering from hunger in the world. Millennium Development Goal 1, which agreed to reduce the number of people who suffer from hunger and malnutrition globally by half by 2015, seems more and more out of reach, in particular on the African continent. This continent, which was self-sufficient in food in the seventies, must import a big part of its food today. One of the causes of this situation is the reduction of agriculture in development, which passed from approximately 17% in 1980 to 3% in 2006.

Therefore, it has become necessary to reinvest in local production capacities for a sustainable agriculture centred on food crops. At the High-Level Conference on Food Security in Rome in June 2008 and at the Heads of State and Government summit in November 2009, Belgium reiterated its will to increase its share of government aid to the agricultural sector to 10% in 2010 and to 15% in 2015 and proposed this objective to all the donor countries. This strong will was accompanied by a clear support towards a new global governance system for agriculture and food security. This proposal reflects the engagement of African countries

made at the African Union Summit in Maputo in 2003, to devote at least 10% of their budgetary resources to agriculture.

Since, we have made concrete this commitment. Agriculture was chosen as a concentration sector of our bilateral assistance in 11 of our 18 partners countries (Benin, Bolivia, Burundi, DR Congo, Ecuador, Mali, Morocco, Mozambique, Niger, Rwanda, Tanzania). Agriculture has regained its place as a motor of growth and as a tool to reduce poverty. So, this seminar organised by BTC is a right and very timely choice. It is indeed not enough to increase the volume of aid to this sector. It is necessary to make sure that this assistance is convenient, effective and invested in areas with potential for growth. It is not a question of maintaining a food assistance system, but to foster a motor of economic growth that effectively contributes to reducing food insecurity. Belgian expertise in this field thus becomes very important and the work we start today is fundamental to substantially increase the quality of our supports in this field. This strategic objective has indeed to be translated in operational objectives through the various channels of development cooperation.

In other words, it is necessary to contribute to increase food production, to intensify the struggle against hunger and poverty and, to use natural resources more effectively and sustainably, to adapt to climate change, to promote good governance as well as the education of women, who are truly the privileged actresses of rural development. The multipurpose character of agriculture requires a holistic policy, which tackles issues of agricultural development in an ecologically sustainable, economic, social, fair and solidarity way. Agriculture depends indeed on a combination of bioclimatical, geographical, economic, political and technical risk factors.

By increasing its food aid by 30% in 2009, the Belgian government intends to support access of the most vulnerable groups of populations to food products.

The model to be followed is the recognized and appreciated initiative of Belgium of purchasing local food products ("Purchase for Progress") where our country presses its international plea through action that aims at reinforcing local production capacities of farmers, while enabling them to participate in particular in the public procurement contracts for local food products by the World Food Programme.

This capacity development of local actors and more in particular of rural organisations will also be expressed, in 2010, by increased support to AgriCord, a network of agricultural agencies which, in cooperation with the International Federation of Agricultural Producers, develops a support programme to producers organisations in developing countries (Farmers Fighting Poverty). A third of the budget for agriculture and rural development is used by the indirect cooperation with NGOs.

Lastly, special attention will be paid in bilateral and multilateral programmes to improvement of small producers' access to results of agronomic research and to production factors (land, seeds, manure); to improvement of agricultural inputs effectiveness, to maintenance of biodiversity, to the transfer of new technologies resulting from an important investment in agricultural research, adapted to the realities of Southern countries and constraints dictated by climate change.

In this respect, the contribution to CGIAR (Consultative Group on International Agricultural Research) will be essential because it enhances innovation in food security by involving farmer groups.

So, there is still much work for the International community if we want food security of southern populations to become a reality in the 21<sup>st</sup> century. Belgian cooperation contributes strongly to achieving this objective and the work, which you start today, shows once again that we want to be successful.

I thank you for your attention and wish you 2 days of rich and fruitful discussions, which will help, at least I hope so, to solve some of the paradoxes that I brought up in my introduction.

# ***SESSION 1:***

***AGRICULTURE AND PRO-POOR GROWTH:  
CHALLENGES AND OPPORTUNITIES***

## **CHALLENGES IN AGRICULTURE DEVELOPMENT IN A CHANGING GLOBAL CONTEXT**

**PAULINE C. ZWAANS, WORLD BANK, WASHINGTON DC**

The presentation provides a framework for agricultural development by outlining the challenges of the three worlds of agriculture from the 2008 World Development Report entitled *Agriculture-for-Development* (World Bank, 2007). The three worlds classification highlights the evolving role and differing challenges of agriculture in fostering growth and poverty reduction in different countries. In addition, the presentation touches on some of the more significant current global developments with longer-term implications for agricultural development.

Why should we refocus our attention on agriculture and rural development? Agriculture remains a fundamental instrument for global sustainable development and poverty reduction. Empirical evidence shows that GDP growth originating in agriculture is two to four times more effective at raising the incomes of the poorest households as growth originating in the non-agriculture sectors. This is reflective of the 75 percent of poor people who live in rural areas, and who mostly rely on agriculture for their livelihoods. In addition 80 percent of global poverty reduction from 1993 to 2002 was the result of falling rural poverty, of which only about 20 percent was due to out-migration; the remainder was from improved conditions in rural areas. Contrary to common perceptions, migration to cities has not been the main instrument for rural and global poverty reduction. The Millennium Development Goal of halving poverty and hunger cannot be reached without attention to agriculture.

The food crisis of 2007 – 2008 amplified the need to re-focus on agriculture. The food crisis reinforced that with more than 1 billion chronically hungry people worldwide, greater investment in agriculture is key to halving hunger by 2015. Despite agriculture's importance, it has suffered from neglect and underinvestment for over two decades; with official development assistance from all sources to the sector declining from a high of nearly 18 percent in 1979, to 3.5 percent in 2004. Similarly, national public spending on agriculture as a share of total public spending has fallen sharply across developing countries since 1980. More recently we have seen a reversal in this trend.

The way agriculture contributes to overall growth and poverty reduction varies across countries. To this end, the World Development Report 2008 catego-

rised countries according to their share of agriculture in aggregate growth over the past 15 years, and their current share of total poverty in rural areas, producing three types of countries in distinct rural worlds – agriculture-based countries; transforming countries; and urbanised countries. The dominant policy and investment challenges differ in each of the three worlds.

In agriculture-based countries — home to about 420 million rural people (68 percent of the population) — the agricultural sector is essential to overall growth, poverty reduction, and food security. Most of the agriculture-based countries are in Sub-Saharan Africa (Laos is a non-African example), where the sector employs on average 65 percent of the labour force and generates 32 percent of GDP growth. Although average annual real agricultural growth has been increasing steadily over the years, productivity growth has been lagging. Much of the recent growth has come from reduced conflict, macroeconomic stability, and lower taxes. The challenge is that future growth will need to rely more on productivity gains as the scope for further expansion of cultivated land declines. Unlike in Asia where the Green Revolution was driven by the adoption of productivity enhancing inputs to increase yields of rice and wheat, fertiliser use and irrigation are scarce in Sub-Saharan Africa. Furthermore, the heterogeneity in crop production and agro-ecological conditions means that improved varieties for many more crops are needed to improve productivity, and also that outside technologies are often not directly transferable. Added to that are often high transaction costs and barriers to trade due to underdeveloped infrastructure. To increase agricultural productivity growth, issues that need to be urgently confronted include the limited public spending on agriculture; adoption of new technologies (e.g. better seed varieties and livestock breeds); water and soil management; and investment in infrastructure to increase access to local and regional markets. To improve rural livelihoods, a multi-sectoral approach should be taken, including investment in human capital and social safety nets to protect smallholder and subsistence farmers from decapitalisation when faced with exogenous shocks. One should also recognise the potential of the millions of women who play a dominant role in farming.

In transforming countries such as China, India, Romania and Morocco, agriculture contributes on average

only 7 percent to GDP growth, but rising rural-urban income gaps are a major source of political tensions, with 82 percent of all poor still living in rural areas. The challenge is to raise rural incomes to temper the rural-urban income gap, rather than rely on expensive subsidy transfers. Because of demographic pressures the agenda for transforming countries should jointly mobilise all pathways out of poverty: farming, employment in agriculture and the rural non-farm economy, and migration. The focus should thus be on higher-value agriculture such as horticulture, livestock and dairy, and investment in infrastructure and market information systems such that rural populations can gain access to rapidly expanding markets for high-value products, as well as export markets for non-traditional products. In addition, rural economic diversification should be stimulated to increase non-farm income growth by providing basic infrastructure and incentives for companies, as well as mass education and vocational training giving rural populations access to non-farm jobs.

In urbanised countries, mainly in Latin America and the Caribbean and Eastern Europe and Central Asia, agriculture contributes just 5 percent of GDP growth on average. Although poverty is mostly urban, rural areas are still home to 45 percent of the poor, and agribusiness and food services account for as much as one-third of GDP. The challenge in urbanised countries is to increase the poverty-reducing impacts of agricultural growth. This requires better linking smallholders to modern food markets typified by the supermarket revolution, and providing remunerative jobs in rural areas. Enhancing smallholder participation requires investment in market infrastructure, upgrading farmer's technical capacity, better risk management instruments, and collective action through producer organisations. For smallholders, being competitive in supplying supermarkets is a major challenge that requires meeting strict standards and achieving scale in delivery, for which effective producer organisations are essential. In addition, addressing unequal land ownership rights would open up further opportunities for smallholder participation.

In addition to country-level interventions, the World Development Report 2008 emphasises the need to pursue a global agenda focused on reducing global trade barriers, investing in global public goods such

as Research and Development for the poor, addressing transboundary plant and animal diseases, and climate change mitigation and adaptation. In addition, the global community needs to reverse the declining development partner support for agriculture.

The changing global context, including population growth and increased price volatility, adds new urgency and new challenges to the agricultural agenda. Sudden increases in food prices in 2008 drove an estimated 100 million more people into poverty, and have raised concerns that local and global food production and price volatility will be higher in the future than the past. Demand-driven volatility is caused in part by greater linkages of oil and grain markets through ethanol based biofuels, and growing links between grain markets and financial markets through growing demand for commodity index funds. Variable trade policy responses such as export bans also reduce producer incentives and distort the needed supply response. Climate change through more variable temperatures and rainfall will impact local food supplies, causing increased price volatility. Well-developed insurance markets could reduce the impact of price and production volatility on farmers, although these are still emerging in many developing countries. For the chronic and transitory poor, the provision of social safety nets will be important to reduce the developmental impact of food price shocks and reduce the risk of asset decapitalisation in response to shocks.

The impact of climate change is estimated to differ geographically with the Southern Hemisphere expected to be hardest hit. Adaptation and mitigation to climate change through improved productivity, resilience, trade, and exploiting new carbon markets will be essential to agricultural development and poverty reduction in developing countries, especially the agriculture-based economies with insufficient economic diversification to cushion against climate change shocks. Estimates show climate change may reduce yields by about 20 percent in developing countries, posing a double challenge for productivity growth—to offset climate-induced yield declines while feeding an estimated 2.3 billion more people by 2050. This challenge is amplified by the decline in grain crop yield growth from about 3 percent per year in the 1980s to about 1 percent today. Better use of existing and investment in new tech-

nologies are needed to reverse the decline in crop yield growth rates.

Globalisation has opened new market opportunities for farmers, and agri-business entrepreneurs. But new markets demand quality, timely deliveries, and economies of scale, requiring concerted efforts to integrate smallholder farmers into these growing markets, especially in the transforming and urbanised countries. Stronger farmers' organisations will help to integrate local producers into regional and global markets. ICT developments can also facilitate the linking of buyers and sellers in more widespread markets.

For each of these challenges a different emphasis is needed across the three worlds of agriculture. Overall it is clear however that more investment in agriculture is needed now to stimulate pro-poor growth – by raising productivity growth, linking farmers to markets, better managing risk and vulnerability, facilitating rural non-farm income, and enhancing environmental sustainability.

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## AGRICULTURAL DEVELOPMENT: DEALING WITH THE AWKWARD SECTOR?

STEVE WIGGINS, OVERSEAS DEVELOPMENT INSTITUTE, UK

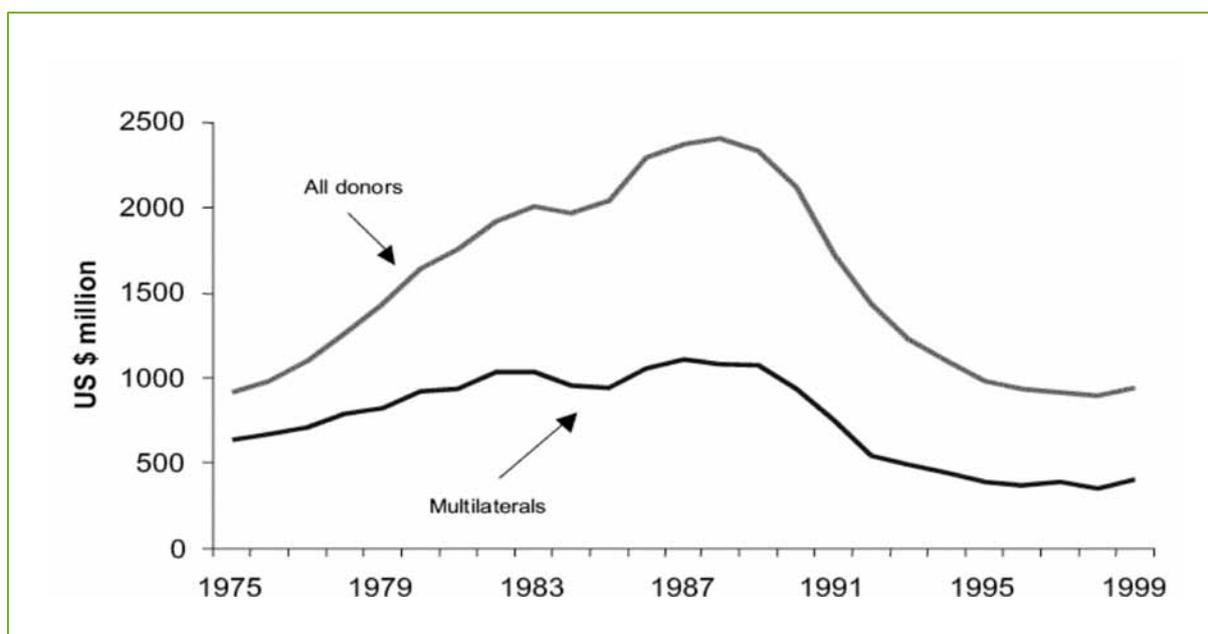
Agriculture is important for development since it is often one of the best and more effective ways to reduce poverty and hunger, and thereby realise the first Millennium Development Goal. Why is that? Agriculture reduced poverty through four pathways:

- Many poor people farm, so increased farm output usually means rising farm incomes with direct benefits to poor farmers;
- Agriculture creates jobs, more so than most sectors, and provides work for poor people who lack land;
- Farming can have strong links to the rural non-farm economy. More farm output means more jobs in supplying inputs, processing, and transport. Even more important, farmers tend to spend much of their additional income locally on construction, services, and local manufactures such as furniture; so that links through consumption can be strong; and,
- When farmers market more staples this tends to push down their prices, to the immense benefit of the poor in urban areas who have to buy in most of their food, and even to many rural households that are net buyers of staples.

But how feasible is agricultural development? After all, one of the reasons that most aid donors reduced their spending on agricultural development programmes from the late 1980s onwards (Figure 1), was that such programmes ran high rates of failure and administratively they proved to be difficult, high cost. Is it, then, that agriculture is the awkward sector?

The fundamentals of agricultural development are quite straightforward, up to a point. Objectives are clear and agreed, as are the means to do so. What things then are simple? Two major areas stand out.

One, ensuring that national (political and) economic conditions are favourable; or as some would put it, getting a favourable investment climate. This includes achieving: peace and political stability; a stable macro-economy with low inflation, stable exchange rate, reasonably low interest rates; reasonable levels of tax – especially important in agriculture where farmers have often been taxed heavily, albeit implicitly through overvalued exchange rates, heavy protection of domestic industry and price controls; clear, transparent and reasonable treatment of private enterprise, with property rights well defined and respected and the



**Figure 1** Aid to agriculture in Sub-Saharan Africa, 1975-1999: Five-year moving average, constant 1999 prices in million US\$ (Source: OECD).

reasonable and predictable use of regulation; and reasonably predictable policy, without sudden and unexpected reversals or dramatic new initiatives announced with little prior public debate.

This may seem so much a matter of common sense as to be not worth saying, but agricultural development has often been derailed by errors so blatant as to be 'elephant traps'. For example, agricultural output in Africa, especially in Northern and Western Africa, has grown more quickly from the early 1980s (Figure 2).

Why is this? The only clear correlate of this is the improvement in net assistance experienced since the early 1980s, see Figure 3. During the 1970s this was negative so that farmers were effectively taxed.

It should be obvious that farmers who are heavily taxed, albeit implicitly, will not invest and innovate. But that point seemed to be lost in the 1970s in Africa.

The second straightforward point concerns investing in public goods. Governments need to invest in physical infrastructure such as roads, irrigation and drainage, and power supplies; social investments such as

education, health care and safe water supplies; and knowledge and information including agricultural research and extension. When it comes to public spending on agriculture, it is not a matter of how much is spent — the Maputo pledge to spend 10% of African budgets on agriculture is good, but needs qualification — but on what it is spent: work by Fan & Rao (2003), de Ferranti et al. (2002) indicate that there are much higher returns to investments in public goods, than other forms of support to agriculture.

But not all that needs to be done for agricultural development is quite so straightforward. Other measures are decidedly complex, in the sense of complex systems, where both goals and causation may be uncertain. This stems from ignorance of complex systems — physical and human — that are often highly specific to location, where little is under human control, the environment bulks large and risks are high. Most of the market failures that can block agricultural development are subject to uncertainty.

Market failures include a wide range of issues of varying importance to agricultural development, such as:

- Uncertain property rights, usually affecting land

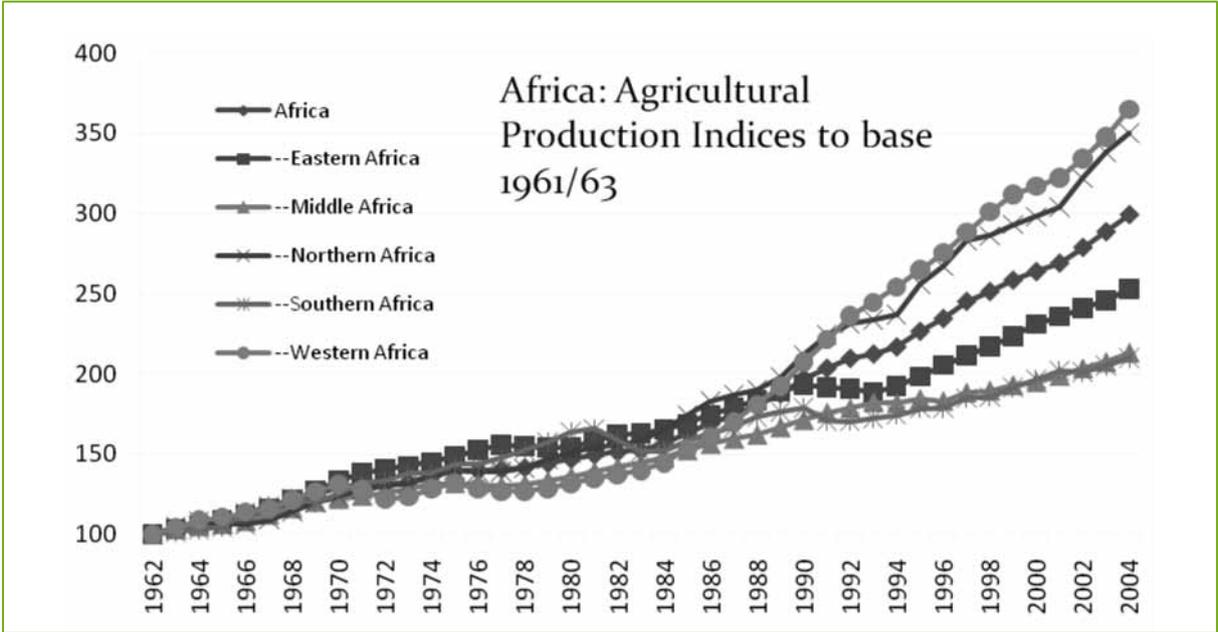
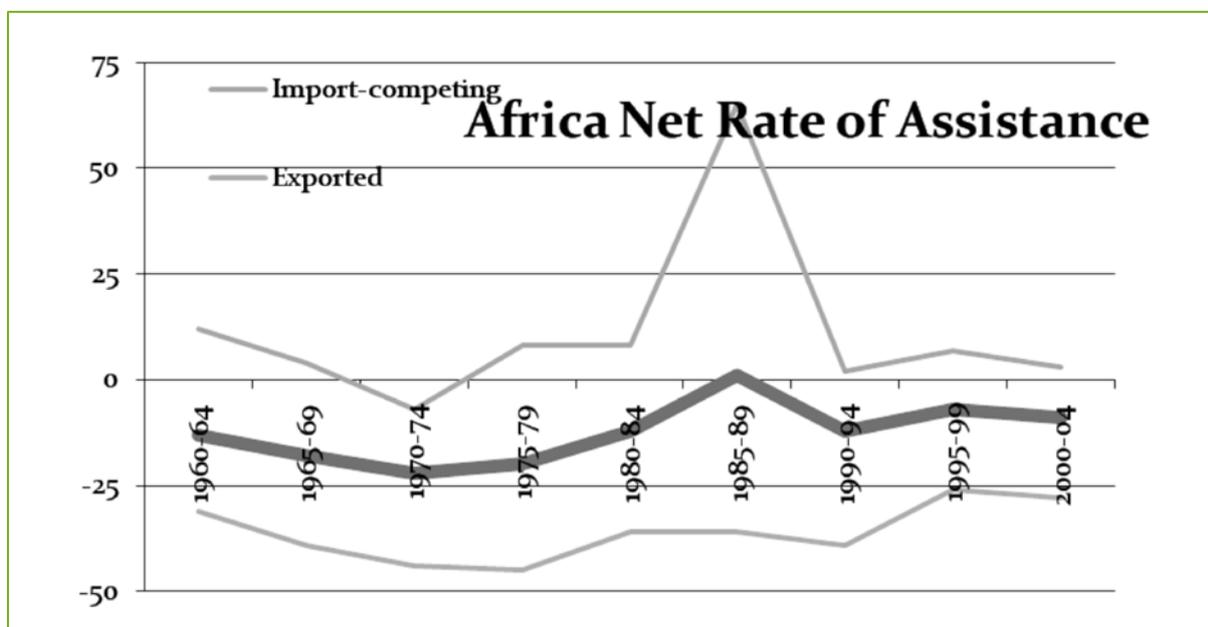


Figure 2 Agricultural production indices to base 1961/63 in Africa (Source: FAOSTAT data).



**Figure 3** Africa net rate of assistance in % (Source: From data in Table 1 Lloyd et al., 2009; taken from Anderson & Valenzuela, 2008).

tenure and intellectual property rights in seed and other farm technology;

- Information failures: knowledge of character, competence of other parties to transactions; ignorance of unobservable characteristics of products; and uncertainty over task environment. These can stymie investment and co-ordination of activity. They hit financial services, insurance provision, and input supply hard; and may increasingly affect marketing of produce as marketing chains become more sophisticated with more demands on farmers for quality of produce;
- Monopoly and oligopoly power;
- Externalities — relatively few affect agriculture, other than animal disease control. But closely related are economies of scale in input supply, finance, insurance where it seems that until activity reaches a threshold, private provision through the market will be too little and at high cost; and, last but not least;
- Social equity — markets do not necessarily deliver fair outcomes, and as far as most people are the biggest single failure.

Market failures can be severe and widespread. At worst they become the mechanism by which people are trapped in poverty, or indeed, that nations are trapped in poverty. For Jeffrey Sachs and others, this is the

fundamental reason why poverty persists in rural Africa. Their existence gives a strong argument for kick-starting development through extraordinary investments and measures in the early stages.

But how much do we know about extent and severity of market failures? Two challenges have been made. One is the observation that it is not failures of markets that deter investment in rural Africa, but rather continuing government failures — from sudden, unpredictable interventions into markets, and hostility to private enterprise from politicians (Jayne & Govereh, 2002). The other is the hypothesis that if there really are business opportunities, people will find (institutional) means to overcome the difficulties (Lipton) — the real problems are not market failures, but lack of technologies, lack of physical infrastructure that make investment in rural Africa a paying proposition.

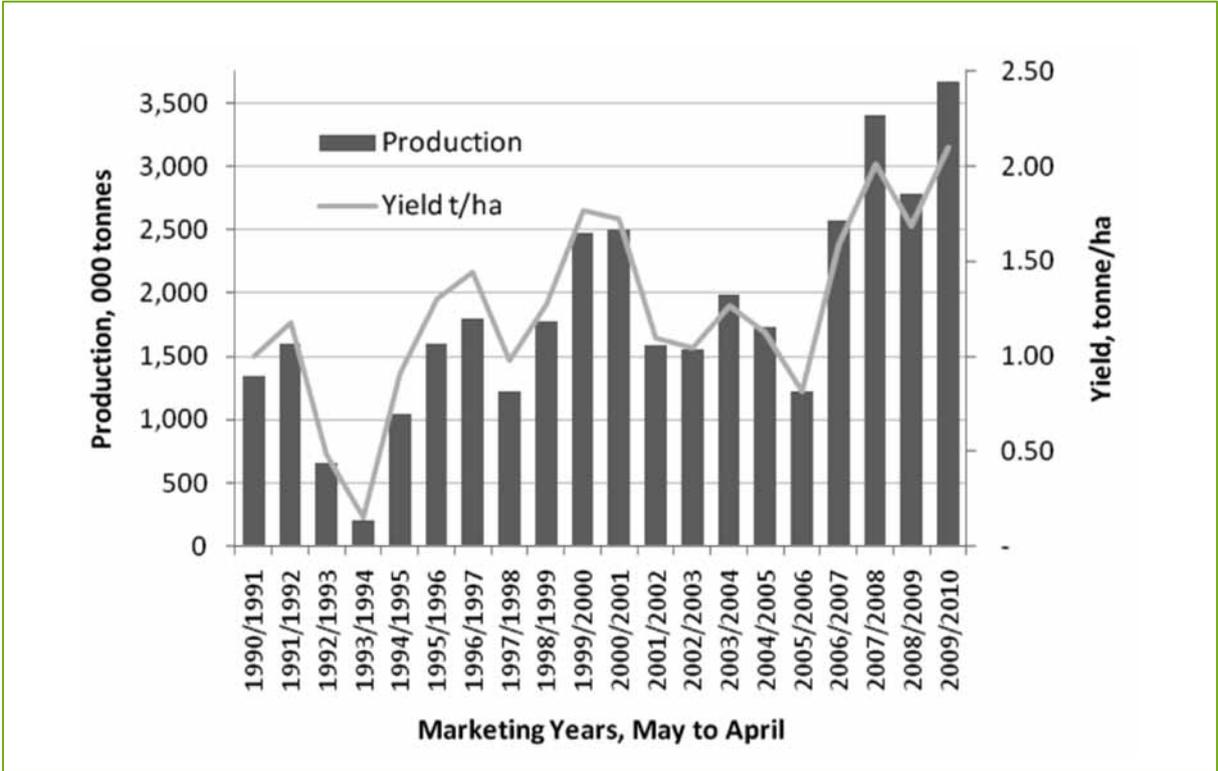
If we accept, notwithstanding these doubts, that there are failures of markets in information, monopoly, and diseconomies of scale — and few would contest that they exist to some extent, and in some places — how should they be tackled? Get government back in, or look to institutional innovation that would allow markets to work better?

Two cases that illuminate the experience are worth considering, both cases where African governments have considered how best to stimulate fertiliser supply to small farmers. In Malawi, building on the experience of earlier experiences of distributing seed and fertiliser, mainly for maize, the government subsidised fertiliser from 2005/06 — much to the consternation of some donors. The subsidy now reaches 1.7M small farms; about half of all farms, and offers up to a 90% subsidy on full costs.

Since the introduction of the subsidies maize production has increased remarkably (Figure 4), and by 2007 was above the amount needed to satisfy domestic consumption. In 2008 and 2009 the maize harvest has again increased, estimated to reach 3.77M tonnes for 2009, giving a surplus over domestic requirements of 1.32M tonnes<sup>1</sup>. While some of the production increase in the last four years may be the result of favourable rains, it would be hard to deny the impact of the subsidies.

The programme has not been without difficulties. Targeting has been imperfect and there are questions about how well the programme works with private dealers. Politically, parties have promised to increase the programme and its benefits as a vote winner, regardless of the economic merits of expansion. The cost has been rising as well: during 2008/09 it is reported that it cost more than US\$ 200M — a large sum for Malawi and one that is barely sustainable—partly owing to its expansion and partly to the rise in fertiliser prices that led to an increase in the unit value of the subsidy (FAC, 2008 & 2009).

Kenya, on the other hand, has taken a different approach. Fertiliser supply was liberalised in the early 1990s, eliminating retail price controls, import licensing quotas, and foreign exchange controls at the same time as donor fertiliser deliveries were phased out. While some of the fertiliser has been supplied under contract farming for sugar cane, and under schemes that integrate marketing, credit and inputs for tea and



**Figure 4** Maize production (in thousands of tonnes) and yields (in tonne/ha) in Malawi (Source: USDA data).

<sup>1</sup> | FEWSNET reports of MoAFS estimates published 23 June 09.

cotton, much of the fertiliser has been supplied in cash deals through private input dealers.

Subsequently, the network of dealers has expanded, to reach 500 wholesalers and 7,000 retailers, so that the average distance from farm to dealer fell from more than 8 km to just over 4 km between 1997 and 2004. Improvements in logistics mean that the real cost of moving fertiliser from Mombasa to farms up country was cut by around 40% in the 1990s.

As a result, use of fertiliser has increased (Figure 6): in 1995/96 43% of smallholders used fertiliser, while by 2006/07 this was 70%. The amount of fertiliser applied per hectare has risen, reaching 190 kg/ha on maize, a level comparable with other parts of the developing world and well above typical levels seen in other parts of Africa. Maize yields on small farms are also up, from an average of 1.48 t/ha in 1997 to 2.1 t/ha in 2007<sup>2</sup> (Ariga & Jayne, 2009).

Not all is well however: the smallest farms and poor farmers find it hard to buy fertiliser for lack of credit. In response the government announced in 2007 a programme to subsidise fertiliser and maize seed sufficient for one acre, aiming to reach 2.5M small farmers. There is another elephant trap with subsidies. Once in place, they can be difficult to remove. India's experience is salutary. Introduced in the 1960s to support the successful drive for the green revolution, they covered fertiliser, irrigation water and rural electricity that drove many of the irrigation pumps. While studies confirm that initially subsidies on inputs contributed to rapid expansion of production of cereals, subsequently it is less clear that the subsidies encourage production. Indeed, since the early 1980s the costs of the subsidies have increased notably (Figure 7), rising to between 15% and 25% of the government budget, more than is spent on education — in a country where adult literacy is only 61%. To make matters worse, there is evidence that spending on subsidies has crowded out spending on public goods. India's agricultural growth has slowed significantly as the subsidy bill has risen and investment in public goods declined.

Market failures are not the only factor that makes agriculture awkward. While the principles of agricultural development may be clear, they need to be differenti-

ated to be applied practically, along three dimensions: by place, gender and social differences. Some knotty questions arise when considering what to do about areas with low potential and especially when they are also remote. Gender clearly matters: female farmers often suffer disadvantages in land rights, support from extension, education, access to markets and labour shortages since women are expected to care for children and run households.

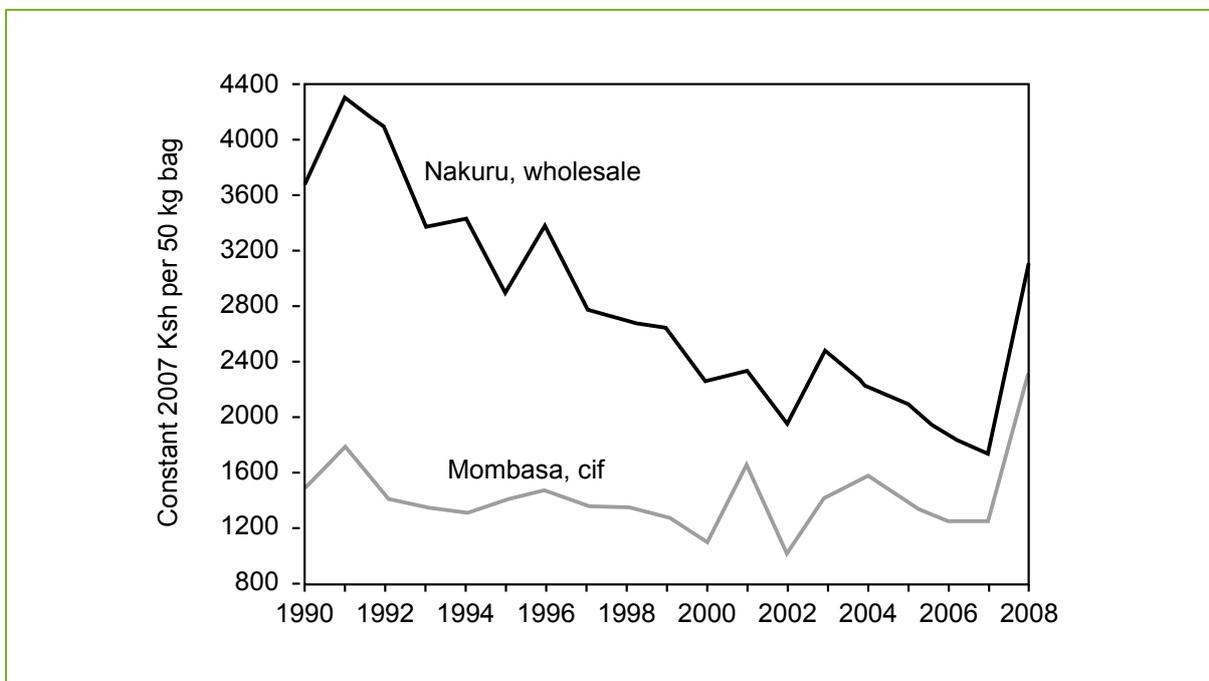
Of these three sets of distinctions, however, the one highlighted here is that of social division, perhaps the least appreciated. Indeed, Figure 8 may surprise some. It shows landholding in smallholder areas of five countries in Eastern Africa, from surveys carried out for the most part in the late 1990s. What is so striking is the degree of inequality of holdings: seen in societies where local norms are those of equality — these are not rural societies where divisions of class and caste are common.

The other point that stands out is that in most of these countries, half or more of the farmers have less than one hectare. The implications are important. Those of us who believe that smallholder development can drive forward farming and indeed entire economies at early stages of development do not have in mind farms of less than one hectare. It is the farmers with 1.5, 2 or more hectares that have the resources to intensify and commercialise. But these are clearly only a minority of farmers. So what happens to the rest of the rural population?

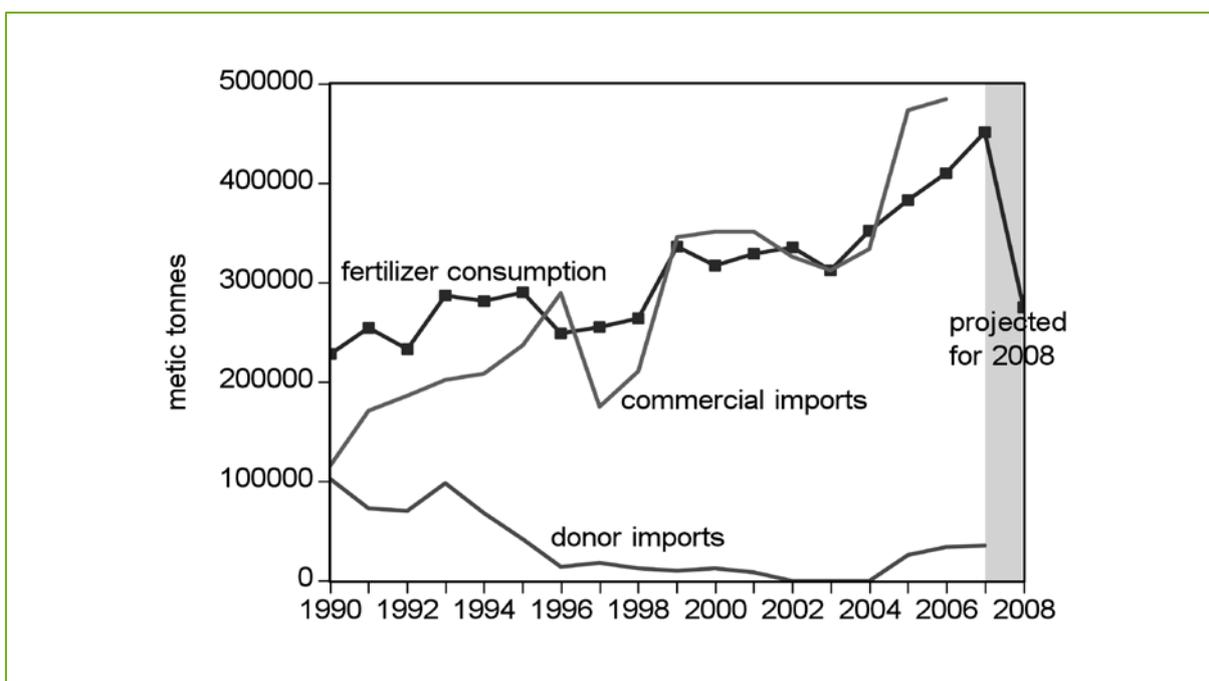
Dorward (2009) presents a useful scheme to link such differences to policy implications, consisting of three options, where agricultural intensification is the first:

- **Stepping up:** intensify farming through improving transport, facilitating access to inputs and credit, investing in technology and through farmer organisation;
- **Stepping out** into the non-farm economy through more education and skills, better health care, and providing potential migrants with information on opportunities, conferring on them transferable rights as citizens and facilitating remittances; and,
- **Hanging in,** providing social protection for those who have few assets and options, investing in technology for food staples to allow them to make best

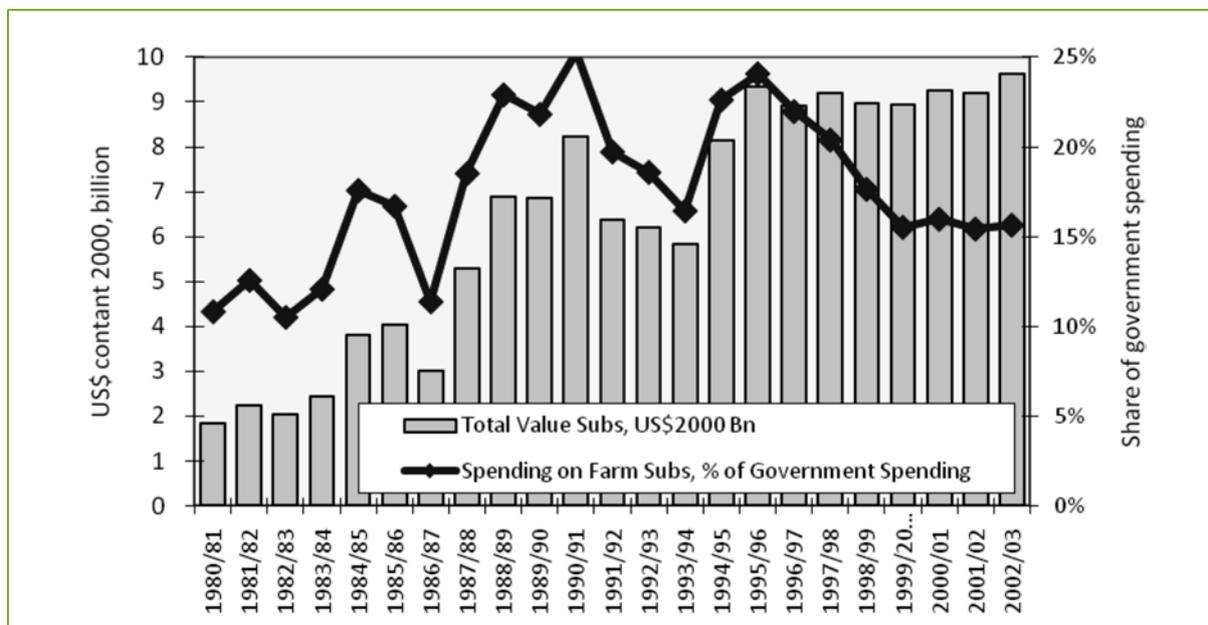
<sup>2</sup> | These yields may not seem so high, but much of the maize on small farms in Kenya is intercropped with other plants, such as vegetables. Hence these yields measure only part of the production of many fields.



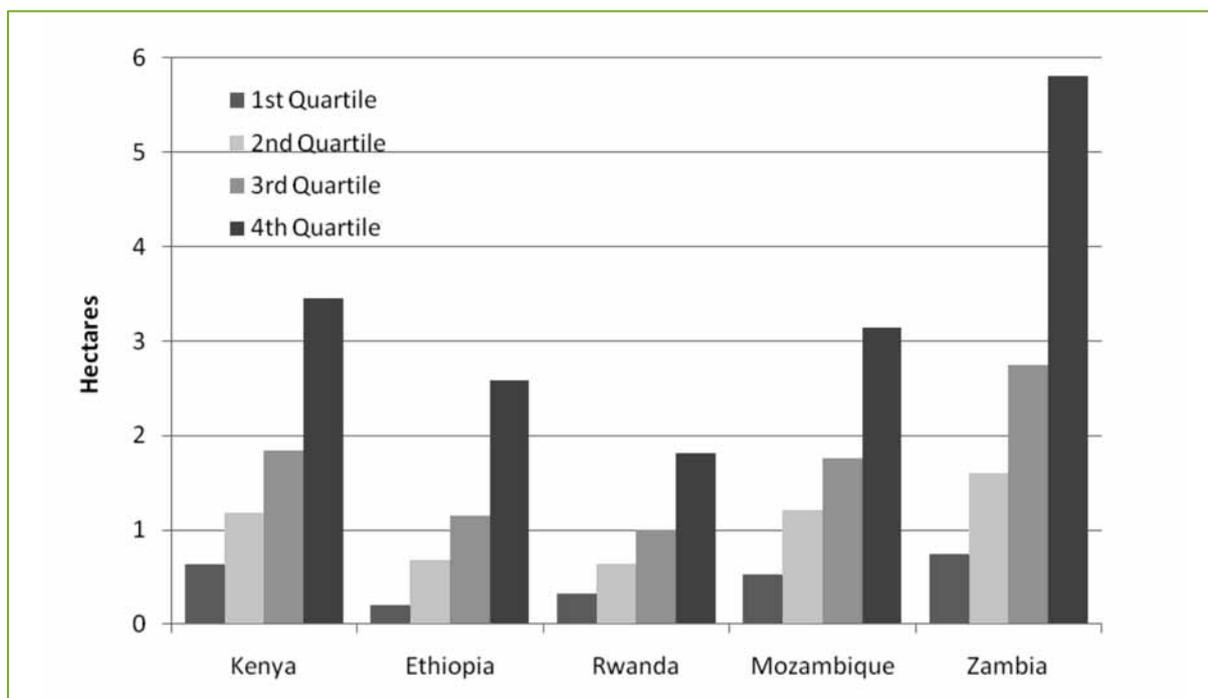
**Figure 5** Evolution of fertiliser prices in Kenya (in constant 2007 Kenyan shilling/50kg bag - Source: Ariga & Jayne, 2009).



**Figure 6** Evolution of fertiliser consumption, commercial and donor imports in Kenya (in metric tonnes - Source: Ariga & Jayne, 2009).



**Figure 7** Cost of Agricultural Subsidies in India from 1980/81 to 2002/03 (Source: Mullen et al., 2005, from Gulati & Narayanane, 2003, for 1980/91 to 2000/01. Later years are authors' trend projections).



**Figure 8** Land distribution amongst small farmers in Eastern & Southern Africa, late 1990s. Average land sizes for farmers (in ha) by quartiles (Source: derived from Jayne et al., 2005, reporting the results of surveys of small farmer communities carried out in the 1990s).

use of their small plots, and making sure that the next generation get a better start than their parents through primary health care, infant nutrition, and schooling.

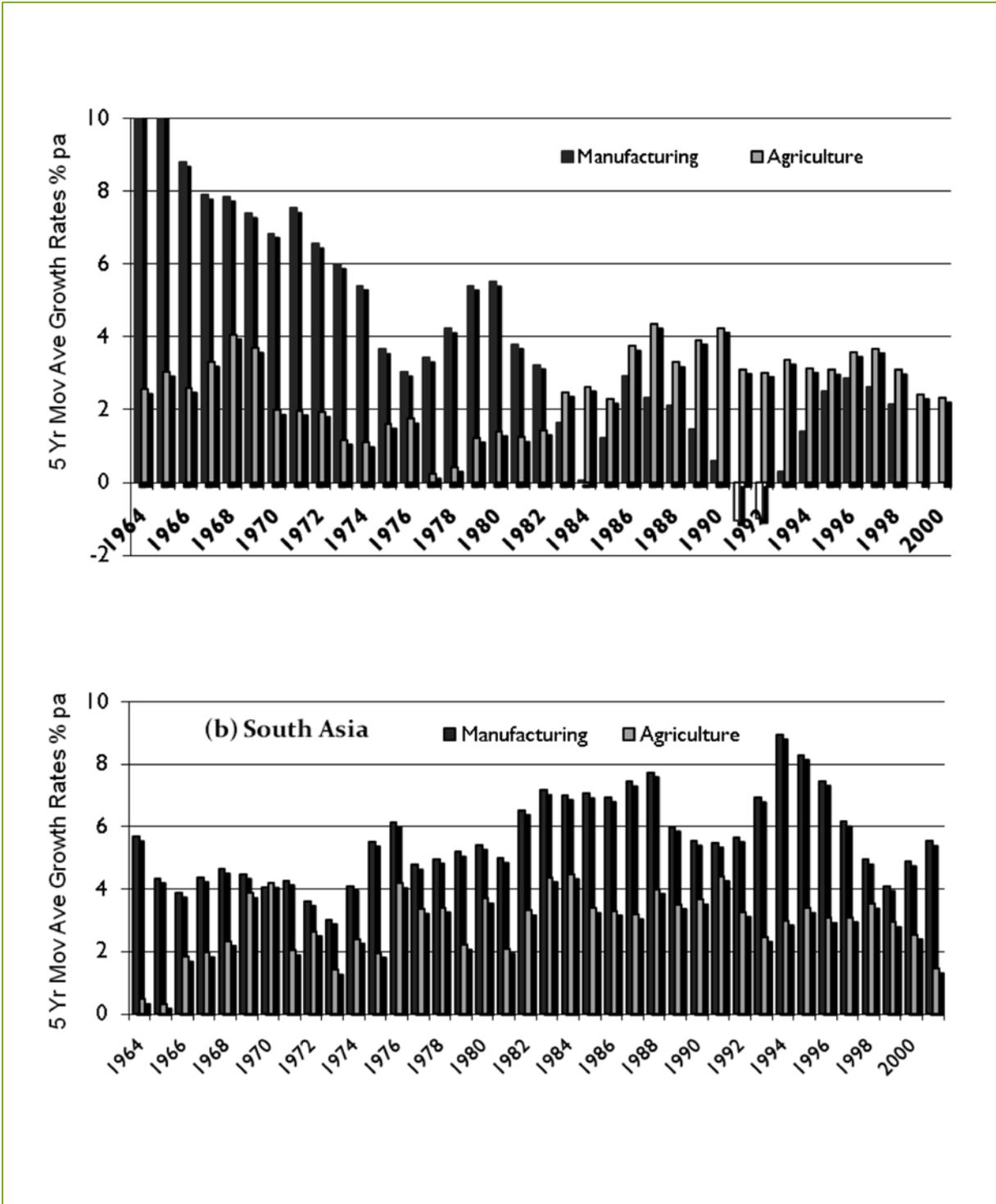
This scheme sets some current debates in context and suggests that some dichotomies are false. Take, for example, the rural non-farm economy (RNFE). Economically it is often complementary to agriculture: there are important links to and from farming. Socially it complements farming, providing jobs to those in the household who are not needed on the farm, other than at peak seasons. To those who imagine that it competes for policies and budgets with agriculture, is this really true? Most of the spending to support agriculture — rural roads, education, health care, power supplies — also supports the rural non-farm economy. The main element of trade-off concerns spending on agricultural research. Yet here the good news is that research requires only small investments — compared to expensive items such as road building and maintenance. Hence it is not necessary to commit major parts of the public budget to support farming alone. Nor are there big-ticket items that support only the RNFE: business development services are one of the few things that might be seen as specific to the non-farm economy<sup>3</sup>, but these are again not expensive investments.

The biggest dichotomy of all, that of urban versus rural, is probably a red herring. Rural areas and urban centres are closely linked through urban demand for agricultural produce, urban supply of inputs for farmers from industries based in cities, and through opportunities for households to diversify by migrating to urban areas. It can be argued that in some parts of Africa, some of the biggest problems facing farmers come from the failures of the urban and manufacturing economy. Compare, in Figure 9, the growth rates for agriculture and manufacturing industry in Sub-Saharan Africa and in South Asia. Apart from the dismal decade of the 1970s in Africa, there is little to choose between the two regions in agricultural growth: the greater difference can be seen in the growth of manufacturing industry. How much more stimulus might there have been to farmers in Africa had manufacturing grown in Africa at the same rate as it did in South Asia since 1980?

In conclusion, then, agriculture is a diverse sector. Yes, some things are simple and straightforward: when Professor Sachs insists that we should not delay but act on those things, he is right. But it would be wrong to imagine that all is straightforward. It isn't. There are more complicated and complex issues to address. These include finding ways to tackle market failures, and differentiating policy to match places, gender and social groups.

Yes, this part of the agenda is awkward. But we should take heart. Experience shows that agricultural development can be achieved. Nor is it necessary that policy be perfect. Avoiding the elephant traps — a couple of which have been mentioned here — can make a big difference.

3 | Although since farming is a business, such services should in theory equally serve agriculture as other sectors.



**Figure 9** Growth rates for agriculture and manufacturing industry in (a) Sub-Saharan Africa and in (b) South Asia (Source: World Development Indicators for Manufacturing, FAOSTAT net production index numbers for agriculture).

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## COMPREHENSIVE AFRICAN AGRICULTURE DEVELOPMENT PROGRAMME (CAADP)

OUSMANE DJIBO, NEPAD/CAADP, SOUTH AFRICA

The New Partnership for Africa's Development (NEPAD) is a coordinating and planning organisation of implementing programmes of the African Union. The Comprehensive African Agriculture Development Programme (CAADP) is the agriculture programme of NEPAD adopted in 2003 to boost agriculture productivity in Africa. The coordination is further assured by 6 regional economic committees. At the national level, national teams or the country teams are in charge.

CAADP focuses on improving food security, nutritional safety, increasing income, reducing poverty and promoting sustainable socio-economic growth in Africa's largely farming based economies. It addresses policy and capacity issues across the entire sector and African continent. The vision of the programme aims for an average annual agricultural growth of 6% by 2015 and for an increased national budget allocation to the agriculture sector to at least 10%.

CAADP defined 4 pillars to deal with the most important issues:

### Pillar 1: Land & water management

US\$ 1 billion has been mobilised to invest in country programmes for sustainable land & water management through the Global Environment Facility for investment in country programmes for sustainable land and water management. An initiative has been launched to address regional constraints to scaling up investments in irrigation development. In response to high food prices in 2008, a programme was launched jointly with FAO to scale up conservation agriculture. The leading technical agencies are the University of Zambia and the Permanent Interstate Committee for Drought Control in the Sahel based in Ouagadougou, Burkina Faso (CILSS).

### Pillar 2: Market access

The second pillar aims at accelerating growth in the sector by raising capacities of private entrepreneurs (including commercial and small-holder farmers) to meet the increasingly complex quality and logistic requirements of markets. It focuses on selected agriculture commodities that offer the potential to raise incomes.

The conference of Ministers of Agriculture of West and Central Africa (CMA/AOC) is in the lead.

### Pillar 3: Food Supply and hunger

This pillar focuses on the chronically food insecure and on populations vulnerable to and affected by various crises and emergencies.

These activities are coordinated by the university of Kwazulu-Natal in South Africa and by CILSS in Burkina Faso.

### Pillar 4: Agriculture research

Pillar 4 aims to improve agriculture research and systems in order to disseminate appropriate new technologies. These activities are coordinated by the Forum for Agricultural Research in Africa (FARA)

CAADP has 5 strategic core areas:

- At the national level, to develop quality investment programmes based on evidence and analytical studies.
- To mobilise partnerships to promote investment
- To mobilize at least 10% of national budgets for the agriculture sector.
- To promote African agriculture through improved communication and lobbying.
- To organize strategic alliances taking into account different scenarios of development of the sector

Reinforcing the links with all the regional economic communities and the civil society are major challenges. Currently CAADP is implemented mainly in Western Africa through the Economic Community Of West African States (ECOWAS) and in Southern and Eastern Africa through the Common Market for Eastern and Southern Africa (COMESA). A common system for monitoring and evaluation is still lacking and should be elaborate this year (2010).

However, the implementation of CAADP has been accelerated in recent months. At national levels CAADP compacts are developed by gathering all stakeholders to identify priorities and action plans. At this moment twelve compacts or agreements have been signed on the continent. The first one was signed in Rwanda in 2007 and 11 were signed in 2009. In each of the four pillars progress has been made and several initiatives have been launched which should boost the development and use of different agriculture options in the future. Bringing together diverse key players - at the continental, regional and national levels - Coordinating, sharing knowledge, success and failures and promoting joint and separate efforts should enable to achieve the CAADP goals.

## **REFLECTIONS OF A DISCUSSANT FROM THE “RIGHT TO FOOD” –PERSPECTIVE**

**OLIVIER DE SCHUTTER, UN, BELGIUM**

In the 1960's and 70's, many Sub-Saharan countries supported agriculture, sometimes even leading to a state agriculture with some compensation funds to regulate the market. Inefficient application of such policies, prices that were too low to cover production costs, and lack of transparency had detrimental effects. Consequently in the 1980s, such policies were disbanded. Structural adjustment plans imposed on heavily indebted countries prompted their governments to withdraw from the sector. It was assumed that the opening of markets to international trade would force agriculture to be more competitive and that market forces would be an incentive to produce more efficiently. However this proved beneficiary for only a small number of big producers who had access to credit and export channels and who could influence the political agenda. Most smallholders were left aside, deprived of any support. This led to a massive rural exodus to the cities, resulting in about 1 out of 6 people living worldwide in shantytowns on the edges of the big cities.

UNCTAD data indicate that in the 90s about US\$ 600 million was invested on a yearly basis in agriculture, compared with about US\$ 3.5 billion in 2006-2007. However, there is a need for better targeting the available resources and avoid the mistakes of the past. Choices have to be made between various rural development schemes or models, which have differentiated impact on the capacities of countries to achieve the right to food.

The right to food is sometimes reduced to the translation of an ethical demand and simplified as a symbolic token. However it should also be seen as an analytical tool for the assessment of the most vulnerable and a guide for policy making. This means a better targeting in line with the non-discriminatory principle, with regard to efforts made, investments made, support offered,... Policy makers should be accountable towards the population, which requires monitoring and assessment of the progress based on indicators. The right to food principle obliges us not only to think about how to increase productivity, but also to take poverty into account, which has been recommended by the committee for economic and socio-cultural rights of the United Nations and adopted by the 187 FAO members in November 2004.

In a growing number of countries, the right to food has been translated into national strategies and worked out in action plans for a 5-10 year period. These plans should ensure coordination among the various state departments and define a calendar, define responsibilities and resources in a holistic way.

National plans within the framework of CAADP-NEPAD, resemble -but are not identical to- strategies envisaging the right to food. They do insist on a participatory approach and the need to have sufficient resources, but they focus on the increase of agricultural productivity and do not take aspects such as health and education on board. Also the institutional dimension in terms of accountability is lacking.

For many Sub-Saharan governments, the green revolution is the aspect of rural development on top of their agenda. This model enabled Latin American and Asian countries to increase the agricultural production over the last decades, mainly using 3 ingredients: massive irrigation, the use of improved seed varieties (e.g. wheat, rice, maize) and the use of inputs like chemical fertilisers and pesticides. It is nowadays sometimes seen as the single model available that should also be applied in Sub-Saharan Africa.

The green revolution definitely increased productivity but it also had negative effects. It increased inequalities and marginalised the poorest farmers living in the least fertile, remote and destitute areas, deprived of any communication means. It also resulted in rapid soil degradation, pollution of ground water, and a mechanised sort of agriculture, relying on chemical fertilisers, that contributes to climate change. Today it is estimated that 14% of emissions of greenhouse gases are due to non-sustainable agricultural practices. This implies that simply copying the green revolution into Sub-Saharan Africa is not the solution and that at least an improved version is needed.

Agricultural development should deal with on the one hand small-scale family farming, and on the other hand the wider-scale agriculture, with increased mechanisation and capital, relying on economy of scales. I agree with the presentation of Steve Wiggins where he pointed out that different types of smallholder exist. We need to know whom we are talking about and realise that some plots are too small to be viable.

However a number of misunderstandings should be tackled before entering the discussion.

- There are 2 types of productivity, which are productivity per hectare and productivity per worker. Productivity per hectare in small family farming, which is quite labour intensive, is huge. When a farmer is combining different types of crops on one single surface, has some cattle that fertilise the soil etc., he often has a higher productivity per hectare than on the equivalent area in large sugarcane or maize plantations. In contrast, small-scale farming is less productive in terms of productivity per worker, because it is labour intensive.
- There is confusion between productivity and profitability. Industrial agriculture is more profitable, because it is more competitive. It can deliver cheaper products and commodities on the market because it's heavily mechanised and less labour intensive. Small-scale farming can be as productive; but it is less profitable and less competitive on the market. So small-scale family farming and large-scale, industrial agriculture cannot easily coexist.
- The comparison between agro-industry and small-scale family farming is unjust because the former benefits from credits and is given priority in agriculture policies, while the latter rarely benefits from any decent support and isn't taken into account in the formulation of agricultural policies. Therefore it's seldom given a real chance to prove it can be viable and productive.
- Agriculture is more than a means to produce food. It is also an income generating activity for the poorest in the rural areas. 70% of poverty is rural poverty, even if the share of poverty is rapidly increasing in urban areas.

From the right to food perspective the question is how to help the poorest peasants. The transition towards a heavily capitalised and industrial agriculture might not be the best recipe for them. Other paths and types of agriculture to better contribute to poverty reduction should be looked at, taking into account these challenges.

In the global debate around food policy there are some issues that deserve more attention; these are market regulation and price volatility, the political economy of the value chain and the accountability of states.

Agricultural prices are volatile by nature and this is a major obstacle for producers. This volatility is due to the low elasticity between offer and supply related to price. It is impossible to have a natural regulation through a rapid offer increase based on increased market prices. Agriculture also depends on weather conditions and climate change is likely to have a growing impact. There is also the cobweb phenomenon, which means that regularly we have surpluses with falling prices, and shortages with increasing prices. To preserve small farmers from price volatility, which constitutes a disincentive for production, regulatory mechanisms are required. One of the best mechanisms is the creation of food stocks. Food commodities could be bought when prices are low, and sold when prices are higher in the low season or in case of bad harvests. This could be done at the national level. It has been applied in countries such as Nicaragua, Guatemala, and more recently Brazil. To regulate the stocks, buying only 10 to 15% of the harvest has proven to have considerable impact. States could even pool their reserves, as in the case of the Food Bank of the South Asian Association for Regional Cooperation (SAARC).

The political economy of the value chain in food production and distribution is another major challenge. Often, crops are bought at a price too low for the producer, but too high for the consumer. The problem is that a small share of the final price goes back to the producer at the beginning of the value chain.

Finally, accountability of states should also be stressed. Accountability should be increased through participatory strategies towards farmers' organisations and civil society organisations. It can be fostered at regional level, for example within NEPAD through peer review mechanisms. There is a need to foster this accountability at international level. The UN Committee on World Food Security (CFS) can be a place to make governments more accountable and to help them increase productivity, for the benefit of the poorest and the most vulnerable.

# DISCUSSION SESSION 1 – AGRICULTURE AND PRO-POOR GROWTH: CHALLENGES AND OPPORTUNITIES

## SELECTION OF QUESTIONS AND ANSWERS

*Should we rather insist on investing in social sectors, where agriculture will benefit from, instead of increasing investment in agriculture?*

- How much money do we need and to do what? To my view the agricultural development agenda is a set of necessary but not sufficient conditions. If the investment climate is wrong, money will never ever sort the problem. A worthwhile ministry of agriculture does not need a lot of resources. If we have more money coming for agriculture we do have to invest massively in public goods like rural roads, rural schools, rural health facilities, rural water facilities. More money should also be put in agricultural research and extension systems, but they're not big-ticket items. When we have the public goods sorted out, we need to work on the market failures. This doesn't require a lot of money but ingenuity and a learning process. In agriculture and rural development we have had 40 years of really interesting development experiences but it hasn't been sufficiently evaluated and learned from. Nicaragua, for example, has seen every single development strategy imaginable since 1960 but there's no formal experience written down on paper. (Steve Wiggins)
- The absence of proper regulatory and policy frameworks is indeed not primarily a money issue. That does not mean that we don't need massive investments to improve the conditions for agriculture. The G8 summit of July 2009 has earmarked US\$ 20 billion over three years to support to global food security. The commitment towards agriculture of high-level decision makers (G7, G20, the African agricultural ministers) indicates that the wake up call of last years' food crisis has been heard and that there is a response to the recommendations of the WDR2008. (Albert Engel)
- In public spending for agriculture it's not the numbers but the quality that is important. Decreasing world poverty should be a multi-sectoral approach, it's important we take a holistic view, and address all relevant issues in an integrated manner. Agriculture public expenditure reviews are often a good tool to review what funds are being spent on and to help evaluate the quality of investments. (Pauline Zwaans)
- We need an increased investment in public goods, but on top of that we need a kind of affirmative action to address the imbalance between a few progressive, commercial type of farmers that benefited from government support and policies, and the small farmers that did not. If you consider all these public goods as investments in agriculture, Africa will need an extra 10% of the national budgets to try and address this imbalance. (reaction from the public)

***Should we rather invest in limiting population growth, instead of investing in public goods in general?***

- The population growth rate in Africa is above 3% on average and this clearly has a negative effect on agricultural growth and redistribution. If the population growth rate is higher than the growth rate of agriculture, all the extra income generated will not be reinvested in agriculture but be used for expenses that are not productive. We'll need to unite efforts at different levels with the participation of different sectors to be able to solve this problem. (Ousmane Djibo)
- In countries like Kenya, the fertility rate has come clattering down since the 1980's, and it has done in many other parts of Africa. But one could say that the demographic growth rate isn't coming down fast enough. So let's indeed have policies to restrict population. Female education is probably the most powerful factor in driving down population growth and it's the biggest single factor improving nutrition. Send girls to school, and keep them into school throughout primary and secondary school! (Steve Wiggins)
- Population is an enormous elephant in the room, but let's turn it into an opportunity. In 10-20 year's time in Africa, we will have a huge demographic bonus, with an awful lot of people who are in their working moments, with relatively few children and older people. We can only use this bonus if they all have a good job to go to. Some of them will be in agriculture and in agro-food chains, but an awful lot have to be in the urban and manufacturing economy, therefore the latter needs to get going. (Steve Wiggins)

***The green revolution enabled an increase in production, but at the same time the number of hungry people and inequalities increased. What could be a proper alternative model?***

- When evaluating the green revolution and its impact on people suffering from hunger, the population increase has to be taken on board. If the productivity increase through the green revolution had not taken place, what would have happened to the growing population? Hence both parameters have to be looked at. If both poverty and the number of hungry people increased in the period of the green revolution, it's not because of the failures of the green revolution but because of the incapacity of one billion people to express their purchasing power through a market mechanism. The markets cannot solve the problem of poverty. (reaction from the public)
- During the green revolution we had no scarcity problem but a distribution problem. With the growing world population we might face a scarcity problem as well. That is the basic justification for the call for an increased agricultural productivity. The big challenge is to develop a second green revolution that is of a different kind. A narrow and dramatic increase in seed quality and the need to put mineral fertilisers to utilise the potential of this seed was basically a simplification approach that was oil-based, and economics have changed now. Some of the answers are there: we can re-utilise some agricultural practices from the past regarding soil and land management, and broaden the use of new practices like minimum tillage etc. We need smarter water management, and conserve agro-biodiversity to raise productivity in less fertile and disadvantaged areas,

because there is a loss of land and the threat of climate change. The linkage of farmers with increased productivity to markets has to be ensured. There is a need for a lot of research aimed at this 2<sup>nd</sup> green revolution that donors can help to fund. (Albert Engel)

- Things would have been worse without the green revolution, more attention should have been given to environmental and social issues. The green revolution was only profitable for those who had access to fertile soils, sufficient land and credit to develop a more productive agriculture, and left out the others. For a new green revolution, agrarian reform should be put on the agenda in some countries, to avoid too small plots that only allow subsistence farming. In countries like Vietnam for example, the agrarian reform was a success. Affirmative action is necessary in order to meet the needs of family farming. Alternatives to oil-based farming need to be explored: bio-pesticides vs. oil-based pesticides, organic fertilisers - or fertilisation by leguminous plants- vs. chemical fertilisers, polyculture vs. monoculture. Since we cannot infinitely rely on fossil fuels these are the kind of changes we need to envisage. Cuba is a good example, from 1991 onwards it couldn't count anymore on cheap oil provisions by the former USSR. During a difficult transition period, Cuba disbanded the big state farms and shifted towards a much smaller small-scale agricultural pattern that wasn't oil-based. The first years were quite difficult, but from 1995 onwards Cuba recovered its previous productivity levels through more agro-ecological practices. (Olivier De Schutter)

***Should CAADP programmes integrate institutional accountability rather than focusing on increasing productivity? What is the stand of CAADP on involving Farmers' Organisations and the most vulnerable population groups?***

- CAADP is one among many complementary programmes (health, infrastructure, gender, education, etc.) around NEPAD, which together will influence the agricultural sector. CAADP is well in advance on the other programmes what might give the impression that focus is only on production. (Ousmane Djibo)
- Monitoring and evaluation is one of the weaknesses of the CAADP. Currently it is planned to set up an M&E mechanism at 2 levels. First, at the national level a mutual accountability framework will be set up to follow up commitments between donors and governments. The second M&E instrument will provide information to the heads of states about the targeted agricultural growth rate of 6% and the 10% national budget share to be dedicated to agriculture. ReSAKKS (Regional Strategic Analysis and Knowledge Support System – [www.resakks.org](http://www.resakks.org)), a knowledge centre that cooperates with different countries to carry out analysis, is in charge of this M&E instrument. (Ousmane Djibo)
- CAADP is also collaborating with APRM, the African peer review mechanism ([www.aprm-international.org](http://www.aprm-international.org)), to ensure that the agricultural dimension is taken into account in the APRM process.

***How should the imbalance between agri-business and family farming be tackled?***

- CAADP, with the support of the African Union, is in charge of the creation of ‘the African Forum’, the only Pan-African platform for producers and farmers, where also the issues of the most vulnerable are addressed. This forum aims at exchanging the best practices in the agricultural sector between producers, actors on the ground and policy makers to make sure that adopted policies are corresponding to the needs in the field. It also serves to exchange and transfer best practices to other countries. The forum originally was an initiative of GTZ. (Ousmane Djibo)

- To come up with adapted or adjusted agricultural policies, CAADP tries to involve all stakeholders in the development of policies insisting on a wide consultation process to represent everybody’s interests at the level of agricultural policies and investment programs. The development of African agriculture cannot be a reality without small family farmers. (Ousmane Djibo)

- Public goods and institutional innovations are basically missing: local and regional markets, infrastructure, roads, storage facilities, mechanisation, cooperatives to improve bargaining position, etc. Too often the focus is overly on the provision of inputs. (Olivier De Schutter)

***Today market dynamics force small family farmers to sell their produce at prices below production cost. How should we address these kinds of market failures?***

- Agricultural economists should translate the presented market failures to politicians, to make the latter see that market economy is not the law, but a theory that often fails when it comes to agriculture. Other market failures to be addressed are the concentration of distribution and of input suppliers. (reaction from the public)

- I hope that we can get to work our economies as well as possible with market systems that will do a lot to reduce poverty. But it won’t do the whole job. Market failures are there; so don’t expect the market to sort out poverty. We need complementary actions. A WB report compared inequality in Latin America -known to be the most unequal part of the world- with countries like Sweden. It showed that if you had no social transfers in Sweden, it would have the same Gini-coefficient as countries like Brasil and Mexico. The social policies and social transfers we have in Europe are the reason we don’t have the inequalities of Latin America. There will always be people who for no reason of their own will end up in poverty so we need the social transfers. (Steve Wiggins)

- The RuralStruc program (<http://go.worldbank.org/3RRZVRZX90>), recently conducted detailed income surveys of rural households in different parts of the world. In one country, Mexico, they couldn’t find the dreadfully poor people on the bottom-end of the distribution. This is explained by the fact that five million rural households in Mexico now receive cash transfers, conditional on sending their kids to school, primary health care and so on. So social transfers seem to work! (Steve Wiggins)

# ***SESSION 2:***

***AGRICULTURAL POLICIES  
FOR PRO-POOR GROWTH***

## REVISITING THE AGRICULTURAL POLICY ARCHITECTURE

LUC CHRISTIAENSEN, UNU-WIDER, FINLAND

Coming out of the food crisis in the early seventies governments focused on boosting domestic food production. Food security was equated with national food self sufficiency, to be fostered through state interventions. Input subsidisation and price protection were the key policy instruments to increase production, and marketing boards were established to reduce price volatility. Over time, it became clear however that many of these interventions were inefficient, and often also fiscally unsustainable.

During the 90's and the 2000s there was enough food worldwide. Yet many people still found themselves with no access to that food— there was “Hunger in the Midst of Plenty”. Attention shifted from boosting aggregate supply to boosting individual demand. This involved raising household incomes and better functioning food markets, complemented by safety nets to assist those in chronic or transitory need in times of crisis. The challenge of food security was reduced to this of poverty reduction. Policy reforms focused on market deregulation, strengthening market infrastructure and the development of safety nets. By the end of the 2000s, the market mediated food security model also ran into problems.

Not only did many continue to live in hunger, especially in Sub-Saharan Africa, underinvestment in agriculture led to slower yield growth and a draw-down of global food stocks by the mid 2000s. This set the stage for weather and agro-fuel policy induced demand shocks to trigger the 2007-8 food price hike. To shield their domestic markets from the world price hike, a series of key cereal exporters stopped exporting. The trust in world food markets as a source of food security that had gradually emerged among importing countries, evaporated overnight. Domestically, the safety nets, which are an essential part of the market mediated food security model, were often inadequate to provide the necessary buffer.

This has left the world with two formidable challenges—doubling the global food supply to feed its expected 9 billion people by 2050 in an increasingly fragile and uncertain ecological environment and ensuring access to it by everyone, while 1 billion people are still suffering from hunger even today. The partial failure of the different policy approaches has further left the

world with many questions on how best to tackle this dual challenge. This is giving rise to a series of hot policy debates on the optimal agricultural policy architecture to increase global food supply, manage its demand, and foster its trade. A few highlights of these debates are reviewed here. A more elaborate discussion is provided in Christiaensen (2009).

### SERVING MANY GODS

The shift in focus in the agricultural policy debate over the past 40 years from macro to micro and environmental concerns highlights that success can be defined in many ways. The ideal food security policy is one that is economically, socially, environmentally and politically sustainable. Yet not one policy instrument scores well on each of these accounts and trade-offs must be made in practice. In revisiting the agricultural policy architecture, it is therefore useful to recall the different criteria by which food policies can be assessed:

- **Efficiency.** This implies that a policy should reach the stated goal with a minimum amount of resources. The efficiency argument in food security debates usually relates to the global or national food supply, i.e. to produce the necessary amount of food with the minimum amount of resources. It is the key economic criterion.
- **Equity.** Equity is concerned with the distributional or individual demand side of the food equation. Food sufficiency at an aggregate level is a necessary condition to guarantee everyone access to food, but it is not sufficient.
- **No environmental harm.** This evaluates policies with respect to their environmental footprint and its implications for future production. Rapid water depletion today could for example jeopardize our water and food supply tomorrow.
- **Political feasibility.** Good policies should not only be economically efficient, but also politically viable. Yet politically expedient policies are often economically inefficient underscoring the important tension between the two in practice.
- **Sustainability.** Food security implies having access to enough food today, as well being sure today to have access to enough food tomorrow. Good food policies should thus ensure stable access to food over time—they must be sustainable. This adds a dynamic and risk dimension to each of the four criteria listed above.

## **INCREASE SUPPLY THROUGH SMART PUBLIC INVESTMENT**

Today, ensuring the global food supply is part and parcel again of the food security debate. The challenge is to increase production in an environmentally more fragile and an agro-ecologically more uncertain environment, while enabling many to participate in the production process to maximize poverty reduction<sup>4</sup>. Bigger, smarter, and more climate friendly investments are needed.

In this context, the need for institutional innovations to enable smallholders to better exploit existing agronomic knowledge is especially worth highlighting, not least in Sub-Saharan Africa<sup>5</sup>. The gap between average on farm cereal yields and yields at experimental stations is commonly estimated at 2 to 4 tons per hectare across Sub-Saharan Africa. Clearly, there remains much to be gained from a much wider application of superior agronomic practices that are readily available on the shelves of the research stations. The continuing controversy surrounding GMO's despite their growing appeal should not distract attention away from these opportunities.

A real challenge is to develop the appropriate extension service systems and institutions to get better agronomic practices and modern inputs adopted by smallholders, especially since these will be equally necessary to enable adoption of GMO's. The large attention that improving post harvest rice management gets in the 10-point Rice Action Plan of the International Rice Research Institute is similarly fitting. In South East Asia, 25% of the rice harvest value could be saved by better post harvest management techniques. There are also many opportunities for post-harvest savings in Africa.

One institutional innovation to foster adoption of inorganic fertilizer and improved seeds that is gaining a lot of popularity in Sub-Saharan Africa is the large-scale re-introduction of input vouchers. Large-scale input subsidies can help overcome information or credit and insurance market failures. Fertiliser subsidies might for example establish a learning process in fertiliser usage and reduce the possible underestimation of their benefits by farmers. Without subsidies farmers may also not have sufficient cash or credit to buy fertilizer, or the incurred debt may be too large to sustain when

harvests fail. In the aggregate, massive input subsidization may also lower food prices by boosting supply, benefiting poor net buyers, or it may be cheaper than the ex post provision of food aid or other safety nets.

Nonetheless, large scale input subsidization programs often also carry a high fiscal and opportunity cost, and they are politically difficult to exit once established. To be efficient, subsidies should only be given when there's an underutilisation due to information or market failures. They should be targeted to those who face the credit and insurance constraints so that the subsidies induce additional use of fertilizer. Complementary action and a comprehensive approach are necessary, for example to avoid that a boost in supply is followed by a collapse in prices due to marketing constraints. And if sustained, they can induce overuse and environmental damage, as observed in India, where continued subsidization of electricity for pump irrigation has contributed to a rapid depletion of the water table. There is a great need to monitor the ongoing scale up of input voucher distribution programs and learn lessons as the programs proceed

Recent experience suggests that the ongoing programs are increasing fertiliser use and overall agricultural output. Yet, they are also rapidly evolving into major budget items, jeopardizing their fiscal sustainability. Few new input users have been attracted so far and very little remains known about the extent to which the programs have out-crowded other investments. In this context it is especially worth highlighting that the composition of public expenditures is often more important than the amount itself. For Latin America, it was estimated that reallocation of 10% of subsidy expenditures to public goods (e.g. rural roads, extension, research), keeping total expenditures constant, would increase agricultural income per capita by 5%. By contrast, increasing public spending on agriculture by 10%, keeping the composition constant, would result in a per capita income increase of only 2%.

Another important institutional innovation to boost supply and help broker Africa's Green Revolution is index-based insurance. The widespread inability of (African) farmers to cope with income shocks ex post, especially in poorer countries, is often seen as a major

4 | Broad based agricultural growth is the more effective strategy in reducing poverty among the poorer parts of the population (Christiaensen, Demery and Kuhl, 2010).

5 | Chapters 5-8 and 11 of the World Bank World Development Report "Agriculture for Development" provide excellent reviews of other aspects related to increasing the national and global food supply.

limiting factor in fostering modern inputs adoption. Yet traditional insurance products usually suffer from adverse selection (attracting those who are particularly risky) and moral hazard (inducing more risk taking by the insured), which renders them unprofitable. Index based insurance circumvents these challenges by basing insurance pay-outs on independent indices, such as a rainfall gauges or livestock prices, which are closely correlated to agricultural output, but which cannot be directly influenced by the insured themselves.

As the pay-outs are determined beforehand, they are also easy to administer. Yet this is only practical from the farmer's perspective if the basis risk, i.e. the discrepancy between the occurrence of the shock where it is measured (e.g. at the weather station) and where it is experienced (on the farmer's field), is small. Correlation problems might occur for example with insufficient coverage of weather stations or when weather patterns differ substantially over relatively short distances. Climate change renders it also more difficult to rely on historical rainfall records to calculate the probability of rainfall failure. The latter is a necessary input in the calculation of the insurance premiums and the contract design.

Early experience from a number of pilots (India, Ethiopia, Malawi, Mongolia, Peru) suggests however that uptake is often limited. Especially the poorest farmers typically don't take up the insurance because they lack cash to buy the insurance contract. A subsidy that promotes access for poor farmers to a combined package of credit and insurance could help overcome such liquidity constraints. It could help them access credit by providing a collateral when default is most likely, i.e. when the rains (and harvests) fail. A series of field experiments are currently being launched under the I4-Index Insurance Innovation Initiative to better understand which supply and demand factors affect the uptake of index based insurance and its consequences for input adoption, crop portfolio choice, yields and smallholder welfare.

### **MANAGE DEMAND BY REMOVING DISTORTIONARY AGRO-FUEL POLICIES**

In addition to advancing global food supplies, global demand needs to be managed better as well. The introduction of agro-fuel promoting policies since the

mid 2000s has strengthened the integration of food and fuel markets, yielding an upward pressure on food prices (and poverty). In addition, fuel markets are much more volatile, introducing additional price volatility in the food markets.

Corn-based agro-fuels produced in OECD countries are generally only competitive with fossil fuels when subsidised, even at high crude oil prices, and they may well do more environmental harm than good. At a minimum, EU and US subsidies and import tariffs should be removed and EU and US usage targets should be revised to reduce distortions in the food market and allow agro-fuel production to concentrate in economically and environmentally more suitable locations.

There might be some economic opportunities for developing country suppliers, given policy and regulatory frameworks that permit long-term investments, properly arrange land acquisitions, uphold decent labour standards, and promote adequate production structures. Nonetheless, even then, care must be taken that the production of fuel feeds does not result in further deforestation, an issue that the latest voluntary certification scheme proposed by the European Commission seeks to address<sup>6</sup>.

Production methods and crops that maximize reduction in GHG, avoid environmental damage, and minimize interference with the food markets should be promoted. Especially second generation agro-fuels hold more promise in this regard.

### **RESTORING TRUST IN FOOD MARKETS**

The final, and arguably biggest challenge, is to revalue the role of food trade given that trust in market mediated food security has been eroded. One popular response to the 2007-8 food crisis so far has been to shift away from market reliance to refocus on grain self-sufficiency combined with larger national buffer stocks. However, not only are buffer stocks costly to maintain, they also come at a high opportunity costs, especially for net importers that have no comparative advantage in grain production. This strategy further leads to thinner and more volatile grain world markets, which countries will in effect have to rely upon ever more often in an era of rising climatic volatility, and thus rising irregularities in domestic production.

<sup>6</sup> | Financial Times, June 10, 2010, Brussels seeks to tighten the rules on biofuels.

The political imperative of a reliable domestic food supply has also induced water scarce food-importing countries such as China and the Arab nations, to outsource their staple crop production directly to land and water abundant countries in Africa (Sudan, Mozambique) and East Asia (Cambodia). International codes of conduct to govern these government-to-government deals have been developed to ensure that the food insecure in the exporting countries benefit equally. These codes include respecting customary land rights, sharing the benefits with the locals, and increased transparency. Yet little remains known about their implementation in practice, which should not be taken for granted.

Erosion of trust in food markets thus comes at a high price, both in terms of efficiency and possibly also in terms of equity, a price which will likely be exacerbated by climate change as more volatile domestic production will force countries to hold even larger buffer stocks. Yet the implementation of measures to restore trust in world food markets is proving to be a tricky enterprise. It requires at least three important measures. First, more reliable information is needed on the state of stocks and supplies to mitigate inaccurate perceptions of shortage, as was the case in 2007 when India imposed its rice export restrictions, the first in a rapidly escalating chain of export restrictions among key exporters. Second, WTO regulations on export restrictions must be revised to better balance the interests of exporters that want assured market access, and importers that want assured supplies. Regulation could help prevent an escalation of export restrictions as seen in 2008. Finally, while not a panacea given the challenge of multi-lateral coordination, establishment of an internationally coordinated strategic reserve system should be considered more thoroughly.

Given sufficient food at the national level, reliable social safety nets are an essential ingredient of an effective national food security system to ensure that everybody has also access to that food, in times of crisis as well as for those in chronic need. In the absence of such systems, governments see themselves obliged to revert to politically expedient but economically inefficient universal tax reductions and subsidies. A hopeful lesson from worldwide experience with social safety nets is that they can be suc-

cessfully designed and implemented in all country settings. Effective safety nets consist of several programs that complement each other as well as other public and social policies, with cash and near cash transfer programs often the more efficient way to mitigate poverty and promote equity<sup>7</sup>.

### **SECURING ACCESS TO FOOD FOR ALL – AN URGENT, BUT NOT IMPOSSIBLE TASK**

Addressing the shortcomings in the current global food architecture to generate an economically, socially, environmentally and politically more sustainable global food system poses a daunting, but not impossible task. It will require more and smart public investment in agriculture, a reform of agro-fuel policies, and especially the restoration of trust in the reliability of food markets. Progress is being made on the first front, both through the commitment of additional resources by governments, international agencies, and philanthropies, and the implementation of a series of institutional innovations. Here, there is especially an important learning agenda, an agenda which development cooperation agencies could take on board more forcefully. However, progress on the second (reform of agro-fuel policies) and third front (restoration of trust in food markets) has so far been limited, and much more political effort will be needed to advance these equally critical agendas.

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7 | Drawing on two decades of experience across the globe, Grosh, et al. (2008) provide a comprehensive guide to the design and implementation of effective safety nets.

## THE ROLE OF FARMERS' ORGANISATIONS IN PRO-POOR POLICY PROCESS

**CHENGAL REDDY, CONSORTIUM OF INDIAN FARMERS ASSOCIATIONS (CIFA), INDIA**

The problems in developing countries can be summarized as follows: poor farmers, poor countries and poor policies. This doesn't mean that poor farmers in Asia and Africa haven't achieved results. In India there's enough food, however there's no equal partnership in relations with big industries and government policies are mainly anti-farmer. To reverse their situation farmers should be organised and empowered in farmers' organisations to make their voice heard in the policy debate because -as an Indian saying goes- "Small farmers, twined together like straw, can control even an elephant". The international community, donors and NGOs can play a role in this, on the condition that they really try to understand the situation of the farmers, listen to them and involve them in all of their actions.

India and its agriculture have many advantages. There's a diversity of agro climatic conditions that holds opportunities for crop cultivation, animal husbandry and fisheries. This allows producing a diverse range of products, including organic, medicinal and native crops. Through its hard working farmers, huge financial resources, modern technologies, and capable entrepreneurs the farm sector has the capacity to increase its productivity and quality for e.g. rice, wheat, fruits, milk and cotton. Thus, India can fulfil its internal requirements while it can also contribute to the global food basket, including bio fuels.

Since the 1990's India achieved huge economic growth rates in the service and industrial sector of 7 to 9%. Agriculture's growth rate however did not exceed 3%. Indian IT experts, doctors and other professionals are globally renowned and sought for. Indian industrialists have become global players and the country disposes of star hotels, mega cities, international standard airports, and others achievements.

With this given potential and the Indian industry and society so prosperous, why is Indian agriculture lagging behind?

Small farmers constitute 80% of all farmers and contribute to 40% of farm production with 40 % of all farmland. However only 10% of the total agricultural bank credit goes to small agricultural loans.

The majority of economic benefits in India are cornered by a 20% minority in the organised sector, which con-

sists mainly of the industrial and service sectors. The policies, resources and development are manipulated in favour of this organised sector.

The institutions that are created whether they are governments, employees, research institutions, universities, extension departments, etc. don't work for the farmers. Nearly Rs 1000 billion is spent on government employees, but government support for the farmers like extension, advice, technologies, etc. is a meagre Rs 20 billion.

Thus, due to institutional failures, manipulated policies and unfavourable pricing of farm products many farmers can't make a living out of farming. Moreover, the actual farming sector faces stagnant agriculture growth with poor yields and chronic shortage in production of legumes, edible oils and sugar. Therefore India is marred by a huge rural unemployment and malnutrition, mass migration, suicides and rural social unrest. While in the past farmers were privileged and respected, nowadays they are treated as "untouchables", and the nearly 40% of the farmers want to get out of agriculture. This whole setting constitutes a breeding place for problems like extremism.

Fortunately, in recent years awareness is growing about the importance and wellbeing of small farmers. It has dawned on policy makers to initiate steps to make small farming sustainable. The 2008 World Development Report (World Bank, 2007) provides many details for this. There are huge opportunities for Indian agriculture with the challenges of increasing production, increasing agriculture investment and increasing diversification.

Small farm sustainability has some conditions: Policies and planning have to be agriculture-centred and farmer-based. There's a need for empowerment and involvement of small farmers. The approach should be bottom-up, and not top-down, as is the case now. This bottom-up approach can be found in the state of Gujarat where every year all government employees are sent to the field to ask the farmers what they want. In doing so, Gujarat has consistently achieved 10% economic growth.

Farmers should have an adequate access to information in order to improve their productivity and competitiveness. Disadvantageous trade restrictions

should be removed. There's a need for increased public and private investments, and there should be an adequate policy framework that institutionalises and legalises farmers' organisations that can support and defend these small farmers. Equal partnerships with the private sector have to be developed so as to reach access to marketing, technology and global opportunities.

Good policies are necessary to reach small farmers' sustainability and to solve the problems of Indian agriculture. The ones who know best what agriculture needs are the farmers themselves. So they need to be organised in farmers' organisations in order to let their voices be heard in the policy making process.

A strong small farmers' organisation can effectively network farmers to promote the development of accountable institutions and curtail exploitation and anti-farmer lobbying. It can obtain and efficiently manage resources, and establish equal partnerships with industry and private sector, research institutions and governments. Farmers' organisations have an advantage over NGOs, as the latter have a tendency to be non-democratic, possess limited capacities, and follow their own agenda.

Networking of small farmers is possible through Commodity Interest Groups (CIGs). These are groups of 10-20 small farmers that join together in partnerships with actors like the industry, retail agents, etc. In this they are empowered, educated, consulted on their needs and provided with timely inputs including access to credit and markets. These CIGs make things work as they have knowledge of the field level problems, and the interest for success is theirs.

Farmers' organisations in developing nations nowadays still face some challenges. The organised sectors oppose pro-farmer policies. Moreover there's an opposition to farmers' empowerment by the political and vested interests. Politicians rather use farmers and divide them than to empower them. Politicians and administrators also oppose decentralised agricultural planning. These challenges already in themselves imply the need for strong farmers' organisations.

In India, the Consortium of Indian Farmers Associations (CIFA) is an apex farmers' organisation that has

succeeded in the last 10 years, with support from the agri-agency Agriterro, in initiating networking of 570 million small farmers in India. CIFA is now recognized as India's National Farmers Apex Organisation. It has strengthened and supported CIGs and enabled small farmers to work with markets. CIFA has succeeded in establishing a strong lobby amongst policy makers and brought about many favourable policies. It has initiated partnership programmes for marketing with the industry, research institutes and governments, and established international programmes with e.g. Agriterro, the World Bank, etc.

Thus CIFA facilitates empowerment of millions of Indian small farmers who can ensure considerable production growth and food security. Its experiences will benefit greatly the networking and empowering of small farmers in other developing nations. Therefore, a next step would be to create networks with international farmers' organisations for the benefit of small farmers around the world.

There are some points of interest for donors that want to develop agriculture for pro-poor growth:

- Strengthen small farmers' organisations and CIGs e.g. by establishing administration, training and dissemination facilities.
- Listen to the farmers when dealing with agriculture in developing nations, and don't tell them what to do. Agriculture, as well as culture, is completely different in developing and developed nations. Therefore rural development plans should be country-specific and elaborated and executed with involvement of the farmers.
- Send academics of renowned institutions to assess India's programmes' implementation and government functioning, since international publications on the institutional failures can contribute to the awareness and recognition of the problems.
- Access to technologies like e.g. biotechnology and pesticides should be free, as with regard to these matters a double set of standards seems to have developed for developed and developing nations.
- Understand that farmers do farming for survival; they want to earn a livelihood.
- Use the WDR 2008 for guidance!

Farmers from developing nations can change policies to be pro-poor and pro-farmer when they organise

themselves and have their voice heard. Governments will have to face the importance of agriculture and wellbeing of small farmers with regard to food security. It is possible to make agriculture sustainable today; the necessary science and technologies exist, sufficient investments are possible, and the markets present great opportunities. What is required is to give dignity and economic stability to the farmers. That will bring about a total change.

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## DEVELOPMENT PARTNERS AND SUPPORT TO PRO-POOR AGRICULTURAL POLICIES

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Within the framework of the new aid paradigm, the principles of the Paris Declaration on aid effectiveness (OECD, 2005) are generally acknowledged as increasing aid effectiveness. The five main areas of the aid effectiveness agenda are ownership, alignment, harmonisation, mutual accountability and management for results. This contribution focuses on the relevance of the aid effectiveness agenda when it comes to addressing agricultural policy issues as part of development cooperation. It questions to which extent the 5 main issues of the Paris Declaration are important for an effective support to the formulation and implementation of national pro-poor policies.

In many countries a sector-wide approach has been established within a number of sectors to increase aid effectiveness, but this has proven more difficult in the agricultural sector. An example of a sector-wide approach conducted in agricultural development is the National Programme for Agricultural Development (Proagri) in Mozambique. This country is facing a number of serious challenges in the agricultural sector, including low productivity, lack of infrastructure and land tenure insecurity. In 2001, Proagri has therefore united development partners and government representatives to define joint priorities for investment in the sector. The Ministry of Agriculture has been in charge of the implementation, and from 2001 onwards, up to ten development partners have provided over US\$ 300 million in funding. According to the evaluation of its first phase, Proagri succeeded in uniting development partners around a common sector programme whereby the number of stand-alone projects was markedly reduced. However, only little impact on the main challenges of the sector was observed during its first phase. Despite a well-organised dialogue approach between development partners and the Ministry of Agriculture, it could furthermore be questioned to which extent development partners succeeded in influencing the policy issues of the sector.

The agricultural sector is characterised by a large number of actors, both public and private. Considerable, and perhaps the largest, influence on sector development is not within the realm of the national Ministry of Agriculture as also other ministries, local governments and non-public entities, including individual private sector actors naturally play an important role in what is basically a private sector. Frequently,

a multitude of government policies influence agricultural and rural development. The national **ownership** of development objectives and government policies and programmes impacting on agriculture is therefore often subject to analysis and interpretation.

Furthermore, agriculture and rural development is often “high politics” and as such subject to political interest beyond and above the sector ministry. The main sector policies, for instance in relation to government interventions and subsidies, may not even be conceptualised in the Ministry of Agriculture even when they are implemented by the Ministry of Agriculture. **Alignment** to national strategies and priorities is therefore not as straightforward as in many other sectors, but development partners may have a role in promoting policy coherence.

With the importance of private sector actors in the agricultural sector, it is important that government policy objectives are shared by the private sector and civil society. Development partners may influence this by assisting in building national coalitions for policy formulation as argued in the 2008 World Development Report (World Bank, 2007). Development partners may also support private sector policy advocacy more directly through member-based organisations in the private sector. An example of this is the advocacy programme under the Business Environment Strengthening Programme of Tanzania that is jointly funded by Denmark, DFID, Sweden and the Netherlands. Under this programme, member based organisations may apply for funding of activities related to research and studies, advocacy activities or direct input to government policy formulation.

When **harmonising** their development efforts in a sector-wide approach, development partners may have a greater leverage in relation to policy issues, since they can speak with one voice. This potential can be an incentive for development partners to join the sector dialogue structure.

However, in some cases, this leverage is not fully exploited due to a bias towards management issues and towards issues related to institutional reform. Development partners are accountable to their own organisations. In the medium to long run they are accountable for results, but in the short run management,

especially financial management, aspects have high priority. This is especially the case when programme implementation is aligned to national structures and systems. Budgeting, disbursements, procurement, accounting and auditing systems need to function properly since malfunctions of any of the financial management aspects may jeopardise the further implementation of the programme, and the continued support of development partners. Furthermore, the implementation mechanisms in terms of programme planning, monitoring and reporting need to be in place and are also preconditions for discussing results. If these important management aspects are not in place, or their implementation effectiveness is questioned, these issues need to get “out of the way” before full attention can be devoted to the actual objectives and results. In the example from Mozambique, financial management aspects were given high priority from the outset, whereas the system for planning, monitoring and reporting was not functioning satisfactorily throughout the first phase. Dialogue meetings that could have been spent discussing intervention strategies and results were instead used to discuss administrative systems of the Ministry of Agriculture.

Additionally, institutional reform aspects can easily take up a large part of the development partner dialogue at the expense of field level results, which may be the ultimate yardstick of the success of a programme. This is where the aid effectiveness aspect of **management for results** becomes important. By establishing a common results framework for the sector with selected indicators, development partners and government alike have a better chance of maintaining the focus on areas of strategic importance, even at times when other, more urgent issues, emerge. Development partners also have to demonstrate **accountability** to the national partner institution, not least in relation to planning of budget figures and release of funds.

As also indicated in the ODI paper “Bumpy road to aid effectiveness in agriculture” (Cabral, 2008): there are some distinct challenges to see through the aid effectiveness agenda in the agricultural sector. The sector is characterised by a multitude of public and non-public partners at national and decentralised level, and the risk exists that alignment around a national sector programme will focus too much on public expenditure and public institutions. SWAps and alignment to

national systems are important instruments for more effective public sector development cooperation, but may be supplemented by support to the private sector. In policy formulation, development partners may play a role in relation to promoting inclusive processes for policy formulation, evidence based policy making and coherence between different policy areas. In policy implementation, development partners may have a role in relation to strengthening the capacity of public or private delivery mechanisms, and focusing on results in the joint partner dialogue.

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## REFLECTIONS OF A DISCUSSANT FROM A NGO'S PERSPECTIVE

**GERT ENGELEN, VREDESEILANDEN, BELGIUM**

Today we got an update and took stock of the sector, but we did not hear pathways for structural solutions of problems linked to food security. It is crucial to diminish the disequilibrium of the current market concentration, land tenure insecurity, and more in general the access to resources. The proposed solutions should be adapted to each specific context. Some specific aspects to take into account include the following:

**Agro-fuels:** There is a competition between guaranteeing food security and agro-fuels. Therefore it is essential to have clear policies to safeguard food security. It is insufficient to talk about sustainability, unless the social part is strongly developed.

**Financial speculation** has been mentioned as a challenge, because it can interfere with food security. However, it is striking that following the international bank crisis of 2008, new proposals to prevent speculation on the agricultural commodity markets have not been developed.

**Trade:** There is ample evidence that cheap imports don't allow the development of domestic production potential, neither the development of local regional markets. Therefore regulation is necessary, in addition to the potential of the markets. However clear solutions on these structural issues have not been developed.

**Policy evaluation:** We heard from Luc Christiaensen 5 criteria to evaluate policies, i.e. efficiency, equity, no environmental harm, political feasibility and security. However it is also necessary to agree upon the basic characteristics of these policies. Examples are the need to involve the beneficiaries in the design, monitoring and evaluation of policies, accountability of those who have taken the decisions towards their own people, development partners and the international community, and transparency and subsidiarity at different levels.

The results of the recent summit on world food security in Rome (November 2009) were rather weak, mainly because structural solutions for problems mentioned above were lacking. However a Committee on World Food Security has been set up to globally coordinate food security. An interesting evolution is that this Committee does not only unite the UN member countries.

UN agencies, civil society organisations, farmers' organisations and NGOs are also invited to participate. Involvement of all stakeholders should be encouraged and implemented at all levels. For inspiration, in Belgium we have an interesting platform involving all stakeholders of the sector that exchange views about food security, policies, the role of the different actors, how we can better align, etc.

Fertiliser is one of the core instruments applied by some major organisations. However there are a lot of preconditions before one should engage. It is clear that fertilisers have a potential, but it is important to look at the entire environment. Their use should be in line with the real needs and dynamics of communities – especially in areas with limited financial resources – and they should be accessible in the long term and not just being given through subsidies on a year-to-year basis. We should look at how to make best use of existing technologies, how to improve them and how to guarantee access to these technologies and to inputs in a long-term perspective.

To conclude, when designing policies and when involving the different actors, we must be aware that there are different models of agriculture. When simplified, this is the opposition between the industrial and the agro-ecological model. In reality many farms – especially in industrialised countries – comprise characteristics of both models. But we must be aware that policies are not neutral with respect to favour one model rather than the other. Each community has the responsibility to clarify which type of agriculture better responds to their expectations.

## DISCUSSION SESSION 2 – AGRICULTURAL POLICIES FOR PRO-POOR GROWTH

### SELECTION OF QUESTIONS AND ANSWERS

*Is it a good idea to integrate agriculture into the carbon market?*

*What are the preconditions in order to make sure that agriculture can realise its climate change mitigation potential, while at the same time alleviating poverty and eradicating hunger?*

- Ecological agriculture is complex and it is difficult to implement because it implicates a time-consuming and costly learning process. Learning costs constitute an information failure. At the same time small farmers cannot afford to have a harvest failure by adopting a new technology. To address this information failure you can try to tap into the carbon market, since these more ecological technologies can be carbon saving. The possible revenues might help farmers to tide over that period where they may incur losses. There are a lot of opportunities for NGOs, for smaller donors to experiment with linking the different interested groups. (Luc Christiaensen)
- Adaptation to climate change is necessary because, although you don't know yet what the effects will be, it will be reinforcing the general tendency of already existing increased needs in food supplies. It will also be important to focus on risk due to a higher probability of extreme events. Mitigation and adaptation measures have to be combined to efforts that give immediate value to the farmers. It's said that agriculture has the potential to address 20-25% of the targets of CO<sub>2</sub>-reductions through carbon sequestration. But it's also said that the benefits in the current carbon market for carbon sequestration would be only 4-5 dollars per hectare per year. You would need an extremely efficient mechanism for transferring those funds in order to have farmers gain from that. Organic manure gives an immediate value, but you need to put in the extra labour and 4-5 dollars a year minus what the mechanism would cost is probably not enough. (Lars Christian Oxe)
- Sustainable family farming is contributing to climate cooling. We should pay more attention to the findings of the IAASTD (International Assessment of Agricultural Knowledge, Science and Technology for Development) reports. These conclude that we cannot continue business as usual in agriculture and policies but that we need to reorient towards more ecological agricultural practices and to more regulated -not centralised-markets. (Gert Engelen)
- Poor farmers are not concerned with ecological, national or international problems. These poor farmers own just a couple of hectares, are illiterate, subject to rain-fed conditions. They don't understand what markets are and receive no extension nor credit. They struggle to survive and want to earn a living through producing food. Still, developed nations who themselves don't apply ecological principles, that make excess use of everything imaginable, that themselves are e.g. the largest users of pesticides in the world, come and tell them what to do. NGOs or donor agencies need to look at the developing nations and their farmers in terms of what farming is, what are the limitations, and how can he go about? (Chengal Reddy)

- When we discuss here about ecological agriculture, it's perceived as if it's a Western problem that is transferred to India. That's not what it's about. If there's land degradation in India, because the farmer over-exploits natural resources to increase his income and this has negative consequences for other farmers or the ecosystem, then that is a farmer collective action problem, a problem within a local context. Ecological agriculture tries to find solutions to that problem. It has to be seen as a market failure, not in a context of North-South. (Luc Christiaensen)

***What policy proposals do you suggest to control or regulate the investment policies from private and public sector so that they have the right purpose and benefit the right people instead of making the problem even worse?***

- Land grabbing and the agro-fuels are in a way private investments. One clear policy with regard to agro-fuels is to stop the current mandates, subsidies and tax-cuts. This is an uphill battle because there are already huge vested interests created, both on the industry as on the farmers' side, especially in ethanol. It was a way to support farmers in developed countries that seemed to be a win-win for everybody. In developing countries that still have land available there is a need for a policy framework regarding land grab. This should regulate the questions of access to land, e.g. large bio-fuel plantations vs. other land users like cattle farmers, the involvement of smallholders, possible outgrow schemes etc. (Luc Christiaensen)
- Related to land, development partners can work on many fronts e.g. preparation, legislation and implementation of land reforms. To some extent that's also happening in some countries. A relevant issue here is policy coherence. Development policies from the part of the development partners should be coherent with their trade policies. With regard to agro-fuels and land grab the issue of good governance comes in. First you should have a good legislation and then good governance to follow that legislation. (Lars Oxe)

***What are available or affordable instruments that developing countries can use to address market volatility?***

- As stated in my presentation we need to emphasise three things to fight price volatility: correct information on global food stocks, revision of WTO regulations on export restrictions and an internationally coordinated food reserve (Luc Christiaensen)
- Land grabbing for food is in a way another policy response to price volatility and export restrictions. Like food self-sufficiency policies it tries to take care of food in one's own country. In turn it results in a thinner and therefore more volatile world food market. Yet another policy is food self-sufficiency with domestic buffer stocks. However, while this protects you against the political risk that an exporter shuts down, it also results in higher costs and food prices, especially for smaller food-importing countries that don't have a comparative advantage, e.g. Niger. Given climate change on top of that -which might hit harder than in the past-, even larger domestic buffer stocks are necessary. There are nreal good answers. One answer is a globally coordinated food reserve. Nowadays some countries have stocks while others don't. When those who have the stocks don't want to release them in case of necessity, you still have the political problem. This globally managed food reserve has been raised in the international forums but hasn't got much attraction so far. (Luc Christiaensen)
- Forget about cheap imports: the sugar price is almost at an all-time high and rice prices are again on the rise. A new food crisis is in the making right now. Look at the latest FAO report: World prices for a number of commodities are higher already than they were in 2007. Most research shows that speculation increased price fluctuation, but not the basic trend. There's no consensus about what to do about it. I would be careful in advocating anything, because the evidence is simply not there to take measures. (reaction from the public)
- Agricultural markets and farmers have always known volatility. But nowadays, volatility is clearly increased by speculation and it becomes impossible for farmers to deal with that. There's a need for regulatory mechanisms that give stability and that allow farmers to sell their products and earn a proper income, instead of being obliged to sell below production cost. WTO has no role or mandate in taking care of food security. There is no nation that has been able in history to develop its industry and economy before first developing and protecting its agricultural sector. Every region should have the right to take care for its own agriculture and to choose the policies that are more adequate for the specificities and potential of the region, including regulation and protection. (Gert Engelen)
- Northern countries want to develop agricultural policies for small farmers but at the same time they have marketing policies, e.g. the free trade agreements between southern and northern countries at the expense of those small farmers. (Ousmane Djibo)

- The following are some instruments used to address volatility in Africa. At the national level there are emergency and longer-term instruments: a) The emergency instruments are import subsidies and export restrictions for strategic commodities. b) The mid or long term instruments are subsidies for fertilisers and improved seeds, investment in infrastructure, and promotion of domestic food stocks. At the regional level, economic communities can address volatility. E.g. the ECOWAS (Economic Community of West African States) tries to establish a strategic list of basic commodities to promote their production at the country level according to their comparative advantages. There were also actions to harmonise tax conditions at the regional level, e.g. the common external tariff. It was introduced to regulate the import of certain products, while protecting the internal market and promoting their production. (Ousmane Djibo)
- The necessity to create food stocks was raised, but where is the balance sheet of the food production in the world that demonstrates that there's a lack of food? There seems to be no plan with regard to food production because there is no inventory. We don't know when, where and what to produce, for what price, under which commitments. (reaction from the public)
- Food price crisis should not be considered as opposed to food crisis. One of the key causes of food price crisis was indeed the low stocks, which sort of indicate that there's less food in the system. We're coming from global supply issues to individual demand, but we now have both: one billion hungry people, and low stocks as an indicator of the state of global food supply. That's why food prices are 50% higher than a couple of years ago. This gives farmers the incentives to start to respond to this. There is a food issue that goes well beyond food speculation. In my presentation I wanted to show that there are institutional innovations that have proven to work to a lesser or bigger extent in different contexts. There's still a lot to learn and we need to keep on innovating and experimenting. (Luc Christiaensen)

# ***SESSION 3:***

***AGRICULTURAL RESEARCH, EXTENSION  
AND INNOVATION***

## CHALLENGES OF PRO-POOR AGRICULTURAL RESEARCH AND INNOVATION FOR AFRICA

**MONTY JONES, FORUM FOR AGRICULTURE AND RESEARCH IN AFRICA (FARA), GHANA**

Sub-Saharan Africa is home to 12% of the world population, but it also houses 31% of the world's poor. It is the only region for which the absolute number of people in poverty seems to be increasing. Agriculture is the dominant agricultural economic activity in Sub-Saharan Africa; it employs around 60% of the population and contributes circa 27% to the GDP. GDP growth in agriculture is about 4 times more effective in reducing poverty than non-agricultural GDP growth. But growth in the agricultural sector over the past 15 years has not substantially reduced poverty in Africa and thus it hasn't been sufficiently pro-poor. In countries like Ghana and Uganda we see that increasing agricultural productivity correlates positively to household income, and negatively to poverty and hunger. But while Ghana -as the only African country- is projected to attain MDG1, i.e. halving hunger by 2015, Uganda is not. So pro-poor agricultural research for development is required. It should aim at creating benefits for the poor in terms of reducing poverty and attaining food security. Moreover it should ensure the active involvement of the poor.

The poor should be targeted, first because there's the moral obligation to focus on this group. On the other hand they represent a large pool of under-utilised labour and occupy large areas of under-utilised land. They also place a considerable strain on natural resources. Due to mismanagement today in Africa about 56% of croplands and 35% of our pasturelands are depleted, and forest is being depleted at an approximate rate of 0.1% annually. Moreover poverty can pose a threat to national security and stability, as was the case with the food riots during the 2008 food price crisis.

Food security is the principal priority for the poor in Africa. The largest part of their income, 50-55% on average, goes to food, while in the developed world this part is around or below 25%. The poor operate in an environment of high risk and uncertainty, so they adopt risk minimisation strategies at the expense of profit maximisation. Because they lack assets, inputs, and access to services and knowledge, productivity is low. Since they are not organised, they can't speak with a common voice to influence decision-making and to express demands for services. They're poorly linked to markets while infrastructural development is insufficient. This increases transaction costs and makes agricultural products uncompetitive to the rest

of the world. Finally, the strain on natural resources is threatening the sustainability of the agricultural system in Africa.

Agricultural productivity of the poor should be increased by developing, disseminating, and supporting adoption of innovations that are tailored to the needs of the poor. Such innovations should cut across the entire value chain. Research must also enhance resilience of the poor to external shocks by diversifying the sources of income, ensuring social protection options, and creating early warning mechanisms. Generating evidence is required to effectively advocate policies and investments to address the needs of the poor. Finally, research should empower the poor with knowledge, skills and self-organisation. If you provide the poor farmers knowledge and skills they'll be able to fend for themselves and have their voices heard in the development programmes.

Pro-poor agricultural innovation must meet several conditions: It has to target the poor and the marginalised people while taking into account their constraints in terms of resources and capacities. Any such innovation should deal with the gender aspect. It also has to be demand and impact driven. Important is to avoid unintended consequences of technologies or policies. Two examples:

- Policies trying to secure property rights for poor farmers might actually render them landless if they also ease the transfer of land to outsiders.
- Ox-drawn implements may reduce the work of men, but they may put an extra burden on the work of women.

In order to get both the policy and technological innovations right, they should be developed with the farmers and other stakeholders, not for them. Research contributes to knowledge, but we also have to recognise the contribution from other sources, like e.g. indigenous knowledge in the value chain. Moreover the generation of knowledge alone is not enough; it should be combined with putting that knowledge into use. This requires empowering the poor with the capacity to innovate and the setting up of innovation platforms with all stakeholders involved.

An example is "Integrated Agricultural Research for Development" (IAR4D), an innovation system framework that FARA introduced to redefine the roles of

scientists and farmers as partners in learning processes. Through the application of this concept in the Sub-Saharan Africa Challenge Program, farmers in some sectors doubled their harvests, and more importantly farmers were empowered making them to demand for services, i.e. improvement in infrastructure and access to markets.

Innovation is crucial for development, but it cannot improve livelihoods of the poor if it's not accompanied by a number of complementary interventions like: infrastructure development, linkages with private sector and markets, capacity strengthening, a favourable policy environment, efficient institutions, and links with the public health system.

The poverty context is dynamic, changing in unpredictable ways, which makes it difficult to adequately target interventions and technologies. Institutions along the value chain are weak both in human and institutional capacities. There's a reluctance of the innovation actors to work together as a part of a holistic innovation system. Another major problem is the under-funding from the public and private sector; in the last decades public funding for agricultural research and development in Africa has gone down in real terms, and the private sector hasn't been able to close the gap. The latter's contribution in Africa is around 2%, while it's 50% in developed countries. Further on there's a weak knowledge management capacity, with an insufficient use of modern ICT-tools and with no empowerment of farmers to be knowledgeable. Finally research and innovation policies are mostly unresponsive because there isn't sufficient evidence-based information to develop policies and there's a lack of incentives for private sector involvement.

In response to these challenges evidence for advocacy and knowledge on best practices should be generated. The Forum for Agricultural Research in Africa (FARA) is the apex body coordinating and facilitating agricultural research for development in Africa, and has the task to respond to all these challenges. It organised its response into five networking support functions which all include one or more region-wide projects:

1. **Advocacy and resource mobilisation** through e.g. the "Framework for African Agricultural Productivity" (FAAP) which provides guidance to all institutions and their programmes to realise the vision of 6% agricultural production growth rate. FAAP consists of three principal elements:
  - the evolution and reform of institutions and services (research, extension and training);
  - increasing the scale of Africa's investments in innovation, and;
  - the coordination and harmonisation of financial support.
2. **Access to knowledge and technologies** through e.g. the initiatives "Regional Agricultural Information and Learning Systems" (RAILS) and "Dissemination of New Agricultural Technologies in Africa" (DONATA)
3. **Policies and markets** through e.g. SABIMA, aimed at creating stewardship in biotechnology and biosafety. The green revolution by-passed Africa in the seventies and the gene revolution should not bypass Africa today.
4. **Capacity building** through e.g. "Strengthening Capacity for Agricultural Research and Development in Africa" (SCARDA) and "Universities, Business and Research in Agricultural Innovations" (UniBRAIN)
5. **Partnership and strategic alliances:** through e.g. the "Sub-Saharan Africa Challenge Programme" (SSA-CP) and the "Platform for African European Partnership in Agricultural Research and Development" (PAEPARD)

The objective of pro-poor agricultural research and innovation is to improve livelihoods of the poor small-holder farmers. Pro-poor research and innovation in Africa has registered some gains, but still faces numerous challenges. With CAADP and FAAP, Africa is partnering with the international community in addressing these challenges. FARA, the sub-regional organisations and the 53 national programmes in 53 countries in Africa are structured to work together under the umbrella of the CAADP. They need international moral and financial support to transform the poor into citizens that contribute effectively to their development.

## **FROM LAB TO FARM: DEMAND-DRIVEN AGRICULTURAL SERVICES AS PART OF A BIGGER PICTURE OF INNOVATION**

**BERTUS WENNINK, ROYAL TROPICAL INSTITUTE (KIT), THE NETHERLANDS**

Besides capital, knowledge is a key factor in enhancing pro-poor agricultural development. The success stories in the agricultural sector in Sub-Saharan Africa, which is dominated by smallholder farmers, show that agricultural knowledge, i.e. new technologies, significantly contributes to an increase of agricultural productivity and hence improved income generation (Gabre-Madhin & Haggblade, 2003). Yet, it should be kept in mind that agricultural technologies and their 'success' are part of a bigger picture with other elements that are important in the provision as well as the uptake of technologies. For example, many of the successful agricultural technologies are commodity-driven and thus linked to market opportunities and outlets (Ibid.). In order to enhance provision of technologies by research and extension services and their uptake by farmers, participation of the final users, the smallholder farmers, is considered to be essential. This paper gives a brief overview of some guidelines for enhancing demand-driven agricultural research and extension services as well as approaches to integrate these services with the bigger picture in order to make agricultural innovation happen.

Agricultural research and extension were long-time considered to be the main vehicle for providing new technologies to smallholder farmers. However, the last three decades have seen sweeping processes and reforms that undermined this basic assumption. In the 1970s and 80s, structural adjustment programmes led to a withdrawal of the public sector from grassroots service delivery. In the 1990s, this process was further strengthened by the economic liberalisation of the agricultural sector and the increased privatisation of agricultural services. The public sector withdrew from the provision of those services and goods that were seen as strictly 'private' and thus should be taken care of by the private sector. On the one hand, private service providers entered where there was a market for services and goods, i.e. purchasing power of farmers. On the other hand, civil society organisations and farmers' organisations filled in the void left by public services, often with the help of donors, in sectors and areas where smallholder farmers had little or no access to services (Wennink & Heemskerk, 2006; Heemskerk *et al.*, 2008).

As a consequence, public sector agricultural services are no longer the sole providers of knowledge and information. These are nowadays accessible through other channels including the rapidly expanding information and communication infrastructure in rural areas. Furthermore, agricultural research and extension services are expected to go beyond developing and disseminating technologies. They also have to subscribe and contribute to development objectives such as poverty reduction, environmental sustainability, competitiveness of the agricultural sector etc.

Farmer participation in agricultural research and extension is considered essential for achieving sustainable and economically profitable innovation in the agricultural sector. Experiences rapidly showed that participation in research and extension activities as such was not enough. It needs to be accompanied by institutional and organisational reforms of particularly the public sector research and extension organisations. This includes the implementation of the principle of the 'reversed flow of funds': only when service users (i.e. farmers) can decide on the financing of service provision, service providers will effectively orient their services on the demand and needs of the users, and will they be accountable to farmers (Neuchâtel, 2007 and 2008).

In practice though smallholder farmers and their organisations don't have the capacity to finance agricultural services and thus can't use this as a leverage mechanism for enhancing demand-driven services. There are two basic models for financing demand-driven agricultural services. The first model is encountered in commodity sub-sectors such as coffee or cacao where levies on the commodities are used to aliment a service fund. Producer organisations, processors, traders etc, use the fund to contract agricultural research and extension organisations. The second model is applicable to smallholder farmers that are not integrated into well-developed markets. Governments and donors establish a fund that is used by representatives from smallholder farmers to orient services on their specific demands. Such a mechanism is supported by specific modalities for demand articulation, daily management of the fund and participatory monitoring and evaluation of the services provided (Neuchâtel, 2007).

Demand-driven agricultural research and extension goes beyond the mere introduction of participatory approaches and methods. It includes numerous issues concerning the policy and institutional environment (e.g. alignment with national policies, types of services concerned, creation of a level playing field) as well as the governance and management of services (e.g. programmatic frameworks, demand-articulation by farmers who are not organised, planning, contracting and M&E procedures). In the current context, producer organisations increasingly play a role in demand-driven services. Therefore they need to participate in the design of the service system (policy, governance and management issues) in order to bring in the perspective and realities of their members, i.e. smallholder farmers (Heemskerk & Wennink, 2005; Heemskerk *et al.*, 2008).

Since agricultural service provision is no longer the privileged area of the public sector, producer organisations have started organising service delivery to their members. In that respect they are facing the same questions as the public services when going for demand-driven services. These questions are even more relevant for producer organisations since they are organisations that are run by and working for their members. Issues to be addressed by producer organisations include: outsourcing or not of agricultural services to their members; coordination of demands from a highly diverse constituency; inclusive demand-articulation; integration of service demands by other partners in the supply- or value-chain (e.g. processors); and the financial sustainability of service provision (Wennink & Heemskerk, 2006; Wennink *et al.*, 2007).

Agricultural innovation can be defined as the effective use of new knowledge for improving practices and processes by rural entrepreneurs (producers, processors, etc.) for the sustainable enhancement of their socio-economic well-being. Effective innovation by smallholder farmers is more than demand-driven research and extension services. It is often determined by the policy and institutional environment (e.g. access to appropriate financial credit and investment services, rural infrastructure), linkages and interaction with other actors (e.g. private sector for accessing markets), and the inclusion of the poorest smallholder farmers (World Bank, 2007). The latter are seldom

members of or represented by formal producer organisations. These formal organisations are often structured around well-established and performing supply- and value-chains that allow for sustainable provision of agricultural research and extension services (Wennink & Heemskerk, 2005).

Market access is one of the main drivers of agricultural innovation and a determining factor in the uptake of technologies developed and disseminated by research and extension. Agricultural services can contribute in two ways to enhancing market access. First of all, by providing knowledge and information for production, processing as well as marketing practices (technologies) and processes (business development and management). Secondly, they can coordinate the provision of services, including input and financial services, through the facilitation of multi-stakeholder platforms. These platforms link supply- and value-chain operators to service providers and create opportunities for interaction and learning, another core element of innovation processes. Platforms are most effective when they are organised around economic opportunities for smallholder farmers.

Pro-poor agricultural innovation requires investments by the public sector in agricultural research and extension. Orientations for investments (where and how) can be based on the asset position of smallholders and the enabling environment for accessing and developing markets (adapted from Berdegué & Escobar, 2002). These two basic criteria are often interrelated. In a situation where smallholders are well integrated in markets and subsequently have built up assets, innovation (i.e. adaptive research) can be financed by the private sector while the public sector supports strategic research. This is often the case of smallholders who are integrated in export commodity sub-sectors such as coffee or cotton. At the other end of the spectrum, where farmers are resource poor and market access is weakly developed, the public sector needs to invest in both skill and technology development (research and advisory services) for smallholders and the creation of an enabling environment (e.g. infrastructure) for enhancing market access and development (*Ibid.*). This is the case of smallholders who are subsistence oriented. Both situations though coexist in many countries and ask for well-thought public-private collaboration and partnerships.

Agricultural research and extension are no longer central to innovation processes. Such processes are above all market-oriented and market-led multi-stakeholder processes that require facilitation and coordination. Enhancing demand-driven agricultural services are therefore to be servable and linked to such processes. This requires appropriate financing mechanisms and strategic collaboration between the public and private sector.

Farmers' organisations are nowadays key actors in such processes. Farmers' organisations allow for creating economies of scale, reducing transaction risks and costs and thereby improving the terms of access to markets. In such a conducive context farmers' organisations can support the development and dissemination of technological innovations that are often embedded in and linked to institutional innovation.

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## Further Reading

[www.kit.nl](http://www.kit.nl)

## DOWN TO EARTH: INNOVATION INTO PRACTICE

### POTENTIALS AND CONSTRAINTS OF CONSERVATION AGRICULTURE TO FIGHT RURAL POVERTY IN SUB-SAHARAN AFRICA

**GUY MERGEAI, GEMBOUX AGRO-BIO TECH, UNIVERSITY OF LIEGE, BELGIUM**

African agriculture is facing many challenges related to the particular environment in which it is practiced. The climate is characterized for much of the continent by a shortage of total annual rainfall and a more and more irregular rainfall pattern. These two phenomena tend to be amplified by the global warming that our planet is experiencing. African soils are generally poorer in nutrients and more acidic than those in temperate regions. Much of the soil also presents big problems of structural instability. Furthermore, plant and animal diseases are not less harmful there, in fact it is quite the contrary. African farmers are working in this harsh natural environment and dispose of significantly less means of production than those of industrialised countries. The level of mechanisation of farming operations and use of inputs is low. Access to energy, which is essential to increase the productivity of the farmers' workforce, as well as for the added value in the production process, is often inadequate. Moreover the prices offered for the produced commodities are usually too low to be profitable. All of these constraints lead to a predominant logic of self-sufficiency among many farmers and to the use of inefficient and unsustainable production techniques, which in turn dramatically deteriorate the productive potential of the environment. This situation must be stopped in order not to permanently compromise the prospects for improved living conditions of future generations.

The concept of a doubly green revolution has been spreading more and more around the world to designate a production technique that is both more effective and more efficient in terms of energy consumption than the production techniques of the first green revolution for which obtaining high yields depended on the use of large quantities of chemical fertilizers and phyto-sanitary products.

The implementation of this new agricultural revolution in sub-Saharan Africa is based on:

- A more rational and more effective use of genetic diversity through domestication of new species, and the creation, by conventional breeding and genetic engineering, of crops that make better use of water, solar energy, and soil nutrients, and that better resist natural enemies.
- The implementation of agro-ecological production techniques originating from conservation agriculture, which do not result in the deterioration of the pro-

ductive potential of arable land but rather lead to a sustainable increase of its productive potential and to a better control of pests. Some first generation biofuels, such as jatropha, and second generation biofuels based on the usage of biomass by micro-organisms can be an opportunity to improve incomes and promote access to energy for poor farmers, when value chains are organized in such a way that they can really benefit from it.

In order to improve yields and yet to protect and enhance the productive potential of arable lands, conservation farming applies three principles:

- Absence or minimisation of tillage,
- Maintenance of a permanent soil cover composed of organic matter,
- Implementation of appropriate rotations often involving cover crops to produce the biomass needed to protect the soil and enrich its upper horizon in nutrients.

The main benefits of conservation agriculture are:

- The elimination of water and soil erosion,
- The improvement of soil fertility in terms of structure and ability to exchange large amounts of nutrients, which increases the efficiency of applied mineral fertilisers,
- A limited impact of weeds,
- The fight against the harmful effects of global warming by increasing the resilience of farming systems with regard to the increasing erratic rains and the overall decline in rainfall,
- The fight against a major cause of global warming by sequestering large quantities of carbon in the soil. Research conducted in Brazil, Gabon, and Madagascar has shown that the increase in soil carbon content during the first years after the adoption of direct seeding techniques in no-tilled soils with permanent cover was 2 to 3 tons of carbon per hectare per year, against a carbon loss of up to almost 1,500 kg per ha for some cropping systems using disc harrows.

According to the latest FAO statistics conservation agriculture occupies about 100 million hectares worldwide, representing 7% of the world's farmland today against less than 2% about 10 years ago. Over 80% of farmland in conservation agriculture is found on the American continent, where a fast increase in adopting

this new technology is noted in the savannas of Brazil, Argentina, and neighbouring countries. The practice of conservation agriculture on 25 million hectares in Brazil and 18 million ha in Argentina partly explains the competitiveness of agriculture in these countries globally. Like Europe, Africa is lagging far behind compared to America regarding the adoption of conservation agriculture. Most of the areas under conservation agriculture that we find there are found in South Africa, with more than 300,000 ha.

The relatively low adoption rate of conservation agriculture in Africa can be explained by the existence of many constraints on this continent. Firstly conservation agriculture is poorly adapted to areas with low amounts of rainfall because of the competition between humans, crops and animals for the small amounts of biomass produced during the short rainy season in these regions. Two other important constraints relate to land tenure insecurity and the existence of collective easements, like common grazing lands and settled practices of crop rotation, which still characterize a large share of traditional agricultural production systems in Africa. These two constraints greatly complicate the implementation of cover crops that could produce the biomass needed to protect the soil. Moreover the practice of conservation agriculture does not always translate into a reduction of the workload for farmers, and it requires inputs and adapted tools to take full advantage of the benefits of this new production mode. Finally, it often takes one to two years before the benefits are being felt, which is often considered too long by the producers. Implementing simultaneously all the technical changes that make up conservation agriculture is complex, because there is a need to acquire and put into practice many new skills at the same time and to go against traditional management practices dealing with natural resources.

Lifting these numerous constraints involves simultaneous action at the production techniques level, as well as action in the socio-economic context in which they will be implemented. At the technical level, it is essential to identify the options best suited for each agro-ecological context, in particular with regard to the identification of the most adapted cover crops and the seed production of the latter. It is equally essential to involve farmers in defining problems and finding solutions in the long term. A participatory learning process

allowing producers to understand the principles underlying the actions and their interest in the proposed innovations to improve their situation should ideally accompany this process. At the socio-economic level, solutions should ideally be sought locally and aim at changing the terms of access to land. These solutions must involve the establishment of a broad consensus within the village communities regarding the implementation of new land management rules, and the establishment of arbitration bodies recognized by all. The acquisition of inputs and adequate equipment by producers and the establishment of more favourable sale conditions for part of their crop may be facilitated by the creation or strengthening of cooperatives.

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#### **Further Reading**

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<http://agroecologie.cirad.fr/>

## INNOVATIONS IN THE DAIRY SECTOR IN VIETNAM

**RAF SOMERS, BTC VIETNAM**

**DO KIM TUYEN & HOANG KIM GIAO, DEPARTMENT OF LIVESTOCK PRODUCTION, MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT, VIETNAM**

### CONTEXT

Vietnam has in the last decade experienced a rapid economic growth, which has led to an increased consumers' purchasing power. Milk consumption in particular has a strong link with improved living standards. High demands force Vietnam to import about 80% of its dairy products. To reduce this large dependency on dairy imports and to increase income & employment opportunities for the rural population, the government of Vietnam launched a National Dairy Development Program (NDDP) in 2001. The Vietnam-Belgium Dairy Project aims at contributing to the program as well as promoting sustainable dairy development.

The large majority of Vietnamese dairy farms have less than 10 animals. Farmers bring their milk twice a day to a cooling centre, from where it is picked up by one of the processing companies. It is estimated that less than 10% is sold informally. In 2009, both the farm gate price and the retail price are among the highest in the world.

Currently, three major issues of the Vietnamese dairy sector are:

- The Vietnamese consumers want high quality dairy products made from Vietnamese milk. The question is whether the Vietnamese dairy sector can deliver them?
- The dairy sector is a competitive worldwide business. Can Vietnamese smallholder dairy farms compete with imports?
- Coordination and collaboration between all public and private stakeholders is essential to develop a strong Vietnamese dairy sector. How can this be organised in Vietnam?

The Vietnam Belgium Dairy project tried to respond to these challenges by innovations at three different levels:

- Encourage dairy farmers to think like businessmen who invest in the right technologies to boost productivity and quality;
- Collaborate with the private processing companies to make sure that farmers were paid a fair price, based on the individual milk quality of every farm;
- Address the future of sustainable dairy production in Vietnam by creating Dairy Vietnam, an organisation that unites all dairy stakeholders.

### INNOVATIONS AT FARM LEVEL

Higher profitability results mainly from an increased productivity per animal. Raising dairy cattle with low productivity is not economical, because the maintenance cost is too high. For example, a cow of 450 kg producing 5 kg milk per day uses 2/3 of the energy intake for maintenance and 1/3 to produce milk, while a cow of the same weight that produces 20 kg milk is using only 1/3 for maintenance and 2/3 to produce milk!

The project's starting point was "Happy cows give more milk". Every farmer should make his cows happy by providing everything the cows need to be happy, especially sufficient and appropriate food and water, a comfortable environment and good care. However, limited availability of land for forage production and the hot and humid climate are major constraints in Vietnam. Therefore the project introduced several technical innovations to create opportunities out of these challenges, based on international best practices but adapted to the local situation.

- Silage bags are a simple but efficient way to store forage overproduction from the summer to be used in the winter, when there is a shortage of forage.
- High quality forage species were introduced to complement or replace the traditionally used low quality Elephant grass.
- Sprinkler irrigation for forage production allows producing high quality forages all year round. A major extra benefit of such system is that you can use it to sprinkle liquid fertilizer, like biogas effluent, for the grass.
- A heat stress system is a direct cooling system, in which water is sprinkled on the cow's back for about 10 to 20 seconds every 5 to 10 minutes. Fans create air circulation, which help the water to evaporate from the skin, extracting heat from the body.

### TRAINING METHODOLOGY

Farmers, extension workers, veterinarians and inseminators all had opportunities to join hands - on interactive training programs. We follow the wise words of Confucius in all our trainings:

***What I hear, I forget***

***What I see, I remember***

***What I do, I understand***

An important aspect of the training program is that the project provided more than training alone. Whenever a farmer needed support, a professional team of dairy advisors was ready to provide on-farm assistance.

#### **CARE FOR THE ENVIRONMENT**

Climate change is real and everyone should make improvements whenever possible. The project aimed at creating opportunities out of the challenges by promoting environmentally friendly practices that are also economically interesting! Our best example is the green cycle: Animal manure is used to produce energy (biogas) and the biogas effluent is sprinkled on the grass as organic fertilizer, which results in high grass production, which on its turn results in a high milk production.

#### **KEY RESULTS AT FARM LEVEL**

Many farmers in the project area followed the advice of the project. About 90% uses silage bags, more than 60% uses new forages species, 50% installed a heat stress system, and about 40% has set up an irrigation system. Most importantly, the farmers have changed their mind about how to run their business. Currently they provide proper feed and truly care about their animals. This resulted in an average productivity increase of more than 20%, the better farms reaching 6000 kg per cow per lactation.

#### **INNOVATIONS AT MILK PURCHASING LEVEL: FAIR PRICE!**

Before the project's intervention, all farmers that delivered milk to a cooling centre received the same price for their milk. As a result none of the farmers was motivated to produce milk of higher quality. The project collaborated with processing companies to make sure that the milk of every single farmer is tested and that each farmer is paid for the quality he or she delivers. The most important impact is that the project raised awareness about the importance of individual milk quality control and payment.

#### **INNOVATIONS AT COORDINATION LEVEL**

The dairy sector has many different players and coordination among them is necessary. Any good collaboration starts with showing respect for each other based on common understanding and communication. Therefore the Vietnam-Belgium Dairy Project created the organisation Dairy Vietnam to improve communication and coordination among all dairy stakeholders, with the motto: More Safe Milk from Profitable Farms.

Dairy Vietnam manages a popular website, publishes a magazine and organises stakeholder meetings and workshops. Furthermore, Dairy Vietnam connects the Vietnamese dairy sector with the world by being member of the International farm comparison network. Currently the majority of the operation funds for Dairy Vietnam is financed by the project, but agreements with private sector companies have been signed to secure funding after the project ends.

#### **CONCLUSIONS AND RECOMMENDATIONS**

Smallholder dairy farming can be profitable in Vietnam, but one should approach it as a business. Low input – low output farming, producing low quality products and generating low income has no future. No project should focus on increasing the dairy herd without guaranteeing profitability.

Innovations are essential to increase agricultural output to feed the hungry world. They can bring high rewards but also have risks to fail and cause loss of face. The project allowed taking risks under a joined responsibility of Vietnamese and Belgian partners. However there is a concern that the application of the new aid paradigm limits risk sharing and innovative action.

A strong dairy sector based on locally produced milk is an excellent tool for economic development. Not only does it create an income for dairy farmers, it also creates thousands of jobs along the dairy value chain. Furthermore, dairy products are of high nutritional value and contribute to the growth and health of the population. Future interventions to support the sector should respect each of the three pillars in agricultural development: the farmers and their organisations, the public sector and the private sector. Each one of them should receive targeted support to conduct their role in the value chain.

#### **ACKNOWLEDGEMENT**

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## REFLECTIONS OF A DISCUSSANT FROM A FARMER'S ORGANISATIONS PERSPECTIVE

**PIET VANTHEMSCHE, FLEMISH FARMERS' ORGANISATION BOERENBOND, BELGIUM**

Looking back at the history, the Flemish Farmers' Organisation *Boerenbond* was set up in 1890 at a time of huge crisis in agriculture. It was the time of the first industrial revolution and people massively migrated to urban areas. Poverty was high, both in rural and urban areas. In those days an average household would spend 70% of their budget for purchasing food, which is comparable with the situation in Africa today. The *Boerenbond* was set up on the principle of solidarity and cooperation and the aim was really to help get farmers out of poverty, which is the aim of development cooperation today. The following are the reflections from the perspective of a representative of a farmers' organisation.

Farmers' commitment and participation in research and innovation is crucial and the voice of farmers must be heard. However, farmers should be able to speak on their own behalf. Too often other people speak on behalf of farmers without being mandated, nor being representative. Farmers' organisations should actually represent their members, and no one can better represent a farmer than another farmer. This is valid for any kind of farmers' group, be it in the North or in the South. Therefore farmers' organisations should be strengthened all over the world, based on two values: cooperation and solidarity. It is only thanks to strong and representative farmers' organisations that genuine participation on equal footing can be ensured, including in the field of agricultural research and development and in value chain development. In fact, actors in agro-industry are not philanthropic, and will not defend the rights of neither the farmers nor the farmers' income. Furthermore, ensuring responsibility and financial commitment of farmers' organisations is crucial. Crucial principles for the *Boerenbond* are representativity, responsibility, solidarity, commitment and accountability.

With regard to the role of farmers' organisations in research and agricultural innovation, the *Boerenbond* experience can be learnt from. For more than 50 years the *Boerenbond* has taken part in the management of research institutes oriented towards agricultural innovation. One of the main challenges is to translate these applied research outcomes into techniques and practice. The message of Guy Mergeai (see above) was that agriculture is climate bound, and the carbon cycle calls for a new type of agriculture in the future.

The major challenge is on the one hand to conduct research and develop new technologies, but on the other hand also to ensure that the farmers' community adopts these innovations. This is a challenge everywhere, in Belgium just as in any developing country, which calls for the active participation of farmers in the management of research institutes, and in the operation of those centres. So there must be a relationship between researchers and farmers. We know that this is not always a bed of roses, yet this should not prevent us from trying to work together.

The state and public institutions must guarantee access to the research and innovation outcomes for the entire farmers' community. The developments over the last decades raised major concerns. The state is disengaging from research and leaves the space to the private sector, which is keen on keeping its research a secret. When research is conducted by multinationals there is a problem of property rights. So we really need to remind ourselves that the access to food is a basic and universal principle. That's the reason why farmers should have access to all forms of innovation, all forms of research, and that's the reason why the public sector should ensure that appropriate research is conducted, of which the results are accessible to each and everyone. This could be a major challenge in the years to come.

Special attention should be devoted to risk management, especially with regard to farmers. Whenever a new technology is used, the farmer is taking the risk to apply it. At the end of the day, the farmer is the one who will benefit, or who will pay the price. Farmers' organisations can play an important role by pooling the risks and by setting up cooperation and solidarity schemes among farmers.

Direct funding of such organisations should be encouraged. In several African and Latin American countries, the *Boerenbond* has projects via TRIAS, an NGO, which together with AgriCord aims at directly funding and strengthening farmers' organisations. Governments of development countries do not always appreciate such collaboration, because direct funding is making farmers' organisations autonomous and more independent. Once well resourced and well funded, their potential to influence decision makers and policy will greatly increase.

## **DISCUSSION SESSION 3 – AGRICULTURAL RESEARCH, EXTENSION AND INNOVATION**

### **SELECTION OF QUESTIONS AND ANSWERS**

***How do we make research outcomes accessible to users? Should the Development cooperation pay more attention to extension, the link between research and producers?***

- 80% of farmers get their information from other farmers, not extension services. The linear process of technology transfer from researchers to extension, and then adoption by farmers doesn't work anymore. The globalised world has become more complex. Stakeholder platforms & facilitation are the new modalities to spread information and answer the questions how to innovate. (Bertus Wennink)
- I would like to call out for all people that are on the application side to develop innovations. In the Vietnamese project everything we use is existing research that was just not used before. I would like to encourage all researchers to write popular articles e.g. on websites. In the field academic research articles aren't read. Keep it simple, just simple data and facts. (Raf Somers)
- It's important that people involved in innovations and home-grown solutions in developing countries write down their experiences to diffuse these innovations. It's also the best way to attract funds and investors. Don't make experts from other countries write it down. (Bertus Wennink)

***Is conservation agriculture realistic in areas with high population pressure? Is increased agricultural productivity a benefit of conservation agriculture?***

- An integration of cattle breeding in a system of associated crops might be interesting in high population density areas. The most productive systems are the ones that consist of different vertical levels of useful biomass production. Animal breeding can be integrated into these systems. To achieve sustainability and performance of production systems, and thus a doubly green revolution, this is the direction to explore. For each context the most suitable technical solutions should be found. Research in Colombia showed these systems to be extremely productive. (Guy Mergeai)
- An implicit advantage of conservation agriculture is that it uses less external inputs, while producing more or at least as much as traditional agriculture, and thus increasing efficiency. (Guy Mergeai)

***Are African governments, donors and others stakeholders aware of the need to invest more in agriculture research programmes?***

- In the past our governments have paid lip service to agricultural development and research and the funding of agricultural research has gone down in real terms. However, in the Maputo declaration, the African heads of states committed to dedicate 10% of their national budget to agriculture, and also the last African Union summit in July 2009 resulted in a declaration to increase funding particularly to agricultural research and development work. Eight countries have reached the 10% level and another fifteen countries are between 5 and 10%. The international donor community increased investments in agriculture and agri-research as well. Today there are nine trust funds to promote agricultural activities and research. (Monty Jones)

***How can the representativeness of farmers' organisations and their accountability towards the weakest and most vulnerable in Africa be ensured?***

- Representativeness simply means that you have organisations that have members that are farmers, and who represent their farmers' community. NGOs and other agencies, can easily define criteria to identify genuine farmers' organisations. (Piet Vanthemsche)
- There's a lot of funding for farmers' organisations and I see two tendencies: 1) farmers' organisations created by external funding that function as PO boxes, or bank account numbers 2) dynamic groups working together and marketing products without being formally organised. The challenge is to link those grass-roots groups to formal, genuine farmers' organisations. (Bertus Wennink)
- FARA has created an alliance of farmers' organisations at the continental level to assure their representativeness in the innovation systems approach. This goes along with a continental body for NGOs and a continental body for private sector. The voices of all these groups will be heard in the new approach. (Monty Jones)

***How can the viability and sustainability of grassroots farmers' organisations be ensured, apart from internal good governance, since there is always a need for external funding?***

- Farmers' organizations should have an economic mission in addition to advocacy and solidarity mission. They should organise cooperation structures and generate some income. There might be external resources, although these aren't always sustainable. At a given moment organisations should institutionalise according to a democratic model. The momentum and dynamic has to come from within the farmers' organisations. It cannot be imposed from outside. In the past the *Boerenbond* was an umbrella organisation for small local solidarity organisations between farmers that assured common purchases, had insurance systems, etc. With time these movements integrated and institutionalised. (Piet Vanthemsche)

***What kind of strategies could be put in place to ensure the promotion of both basic and applied research?***

- Basic research cannot be based on competitive demand-driven mechanisms, because a space for creativity has to be assured. Applied research on the other hand can be demand-driven. The researcher is also a knowledge broker; he can bring farmers in contact with other research. (Bertus Wennink)
- But you have to define clearly what basic research actually means. For applied research you need to find a balance between the vision of researchers and the needs on the ground in agriculture. (Piet Vanthemsche)

***Do all countries in Africa need separate research? Are there country-specific problems, or is there a need for policy changes?***

- African production systems are very diverse. CAADP has launched interventions at national, sub-regional and continental levels. National programmes are addressing country-specific needs, sub-regional programmes crosscutting issues and continental programmes inter-connect people with political leaders. (Monty Jones)

***What are the new research issues to make the doubly green revolution successful in reducing hunger and production problems?***

- Appropriate innovations and technologies are needed to produce higher yields and resistance to major stresses. Rice was a crucial building block of the Asian green revolution. In Africa however more than 12 staple foods need to be developed to get the kind of green revolution Asia got. An example of a project is SABIMA, “Strengthening capacity for safe biotechnology management in Sub-Saharan Africa”. It aims at creating stewardship in the use of biotechnology and tackles policy issues such as awareness raising, supporting policy makers and technocrats in developing appropriate biotechnology programme for Africa. (Monty Jones)
- We are on the road to achieving the green revolution. AGRA, the Alliance for a Green Revolution in Africa, is a programme studying the green revolution in Asia, and evaluating how to use this experience in Africa. Issues are seed, irrigation, marketing, farmers’ empowerment to adopt improved technologies... (Monty Jones)
- We know the issues that made the green revolution by-pass Africa in the 70’s, and we’re putting in place interventions to achieve a green revolution in the shortest possible time. We need to take all of these issues into account through appropriate interventions. Innovations and (bio)technology alone cannot achieve the goal. (Monty Jones)
- Food security and nutrition security should always go together. There are institutions that are evaluating the nutritional level of various key staples: sorghum, millet, rice, etc. in order to improve their nutritional quality. (Monty Jones)

***How should gender be integrated in the agriculture development?***

- Prior to the BTC seminar, the “Commission Femmes et Développement” organised a 1 day seminar in Brussels on 15 December 2009, focusing on access and control of resources by women as a challenge for food security. The participants called upon the Belgian government to support authorities of partner countries to assure the right of land tenure for women and to take gender budgeting into account in agriculture interventions. Researchers were called upon to use disaggregated gender data and to pay attention to security issues.
- We need strong, independent agricultural women organisations. Everywhere in the world we see that when agricultural organisations found their place, also women organisations emerged with their own emancipation agenda concerning the role of women in the agricultural community, although this sometimes led to conflicts with their male colleagues. (Piet Vanthemsche)
- Women are the predominant force in agricultural development in Africa, but in science and technology they only represent 20%. FARA has analysed gender issues in Africa and will come up with a position paper that links on to the CAADP process. We’re making efforts to promote women in science. An example is Rwanda where you have a balance in almost all sectors, even in parliament. (Monty Jones)
- Women traditionally have a strong position in certain sectors and commodities in African agriculture. Supporting the organisation of women around these commodities can be used as the starting point for a gender approach, e.g. Shea butter in Burkina Faso. Empowering women in agriculture is about economics. (Bertus Wennink)

***Much of the criticism on projects is that they’re building the capacity of the project staff, and they focus on results instead of on processes. When the project ends everything ceases. What are the conditions for scaling-up?***

- Sustainability is the condition for scaling up. The farmers should be convinced about the new technology proposed by the project. Other players such as private companies and government have to be involved in the process to give information and help farmers to make a change. In the case of the Vietnam-Belgium dairy project, sustainability came through the partnership with milk processing companies. After the project, we are considering to create a team of specialised professionals available for everybody that wants to hire them. (Raf Somers)

# ***SESSION 4:***

***GETTING AGRICULTURE AND RURAL  
ENTREPRENEURSHIP MOVING***

## INCREASING AGRI-FOOD EXPORTS AND ITS DEVELOPMENT IMPLICATIONS

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DEPARTMENT OF EARTH AND ENVIRONMENTAL SCIENCES, K.U.LEUVEN, BELGIUM**

During the past couple of decades the integration of poor countries in global agricultural markets accelerated with increased food exports originating from developing countries. At the same time, there have been important structural changes in global agri-food markets. World trade in food and agricultural products is increasing and has more than tripled during the past two decades; from 220 billion US\$ in 1985 to 720 billion US\$ in 2005. Exports of high-value products – defined here as including fruits, vegetables, fish, seafood, meat and dairy products with a relatively high per unit or per weight value as compared to more bulky primary commodities such as cereals, coffee and cocoa – have been increasing even more rapidly; their importance in total global agri-food exports increased with 10% points from 34% in 1985 to 44% in 2005. This shift towards high-value agricultural exports has been most dramatic in developing countries where they increased more than fivefold over the period 1985-2005. The share of high-value commodities in total developing countries' agri-food exports increased from 23% in 1985 to 40% in 2005. This has been accompanied with a significant loss in importance of traditional tropical exports – defined here as including coffee, cocoa, tea, sugar, cotton, nuts and spices – for which the share in total exports decreased from 41% in 1985 to 18% in 2005. High-value commodities actually constitute the main component of developing countries' agri-food exports.

Agricultural export development is generally considered as a pro-poor growth strategy because of the link to the rural economy and because of its intensive use of unskilled labour. The shift from traditional tropical exports towards high-value exports entails additional potentials to increase the returns from export agriculture for poor countries and poor producers in those countries because of the higher value. However, additional structural changes in global agri-food markets cast doubt on these beneficial effects. Food trade is increasingly consolidated with large multinational food companies – such as retail chains and processing companies – increasingly dominating global agri-food chains. Moreover, food standards – including for example food quality and safety standards – have been increasing sharply since the mid 1990s and global agri-food trade is increasingly regulated through a complex aggregate of public and private standards. These changes have had important implications for

the way global food supply chains are governed with increasing levels of vertical coordination. This is most apparent in the form of contract farming between agro-industrial firms and local primary producers. In the most extreme case primary production is completely vertically integrated in upstream processing and trading activities.

Concerning the development implications of high-value food trade, there are two main concerns: The first concern is that small food businesses and smallholder agricultural producers are excluded from high-value export supply chains because of their inability to comply with high standards or because downstream companies prefer to source from and contract with larger suppliers. The second concern is that smallholder producers are exploited in high-value supply chains because of their low bargaining power vis-à-vis large – often multinational – food companies. We address these issues with comparative evidence from three original case-studies on high-value horticulture exports in Sub-Saharan African countries: 1/ the vegetable export sector in Madagascar (based on Minten et al., 2010), 2/ the bean export sector in Senegal (based on Maertens & Swinnen, 2009 and on Maertens, 2009), and 3/ the tomato export sector in Senegal (based on Maertens et al., 2008). The combination of these case studies is particularly relevant because the three studies document the diversity in supply chain responses to increasing standards, varying levels of vertical coordination in the chains, and the different channels through which local farm-households can benefit.

First, the vegetable export sector in Madagascar is dominated by one domestic exporting company that relies 100% on smallholder contracting for procurement of primary produce. In response to increasing standards in overseas markets the company has intensified its contract-farming schemes with smallholders. This has led to a vertical coordination scheme including almost 10,000 smallholders, often small farms with less than 1 ha, in the hillsides of Madagascar. The company relies on an intensive on-farm monitoring system including 300 company agents who regularly visit the contracted farms to provide extension services and technical advice, to monitor adherence to contractual agreements and to avoid side-selling. Moreover, the company supplies inputs on credit at the beginning of the growing season. Second, in the

Senegalese bean export sector increasing standards have induced a shift from smallholder contract-farming towards vertically integrated estate production by the exporting companies. It is estimated that smallholder procurement decreased from 95% in 1999 to 52% in 2005. Especially the largest companies changed their procurement system and started their own integrated estate farms as part of a strategy to become EurepGAP certified. Third, the Senegalese tomato export sector is dominated by one multinational company who was established and started exporting tomatoes from Senegal to the EU in 2003. The export supply chain is completely vertically integrated. Smallholder procurement is 0% and production, processing, trade and distribution is completely integrated within the subsidiaries of the multinational companies.

Despite the differences in supply chain structure and governance across the sectors, the results of the case studies show that in all three cases there have been positive welfare effects for local rural households. Yet, the channel through which households benefit differs across the sectors: product market effects are important in the vegetable sector in Madagascar where 100% of the produce is supplied by smallholders on a contract basis; labour market effects are important in the tomato sector in Senegal where the chain is completely integrated with no procurement from smallholders; and both effects are important in the bean sector in Senegal where there is a mixed strategy of procurement from contracted smallholders and integrated estate farming. First, in the case of vegetable exports in Madagascar rural households benefit substantially from contract farming with the export industry. The vegetables produced under contract contribute for 47% to total household income. In addition, through technological spillover effects from vegetable contract-farming rice productivity increased with 64%. The overall result is an increase in rural incomes, an increase in the stability of rural incomes and a reduction in poverty; which is reflected in a reduced 'hungry'-season for households engaged in vegetable contract farming with the export industry.

Second, the shift from smallholder contract-farming towards integrated estate farming observed in the bean export sector in Senegal has also shifted the way local households benefit: increasingly through agro-industrial employment and labour market effects

rather than through contract-farming and product market effects. Although both effects result in significantly higher incomes, the shift in supply chain governance has resulted in a stronger poverty-alleviating effect of high-value horticulture exports. The case study results show that the poorest households mainly benefit through agro-industrial employment while contract farming is biased towards relatively better-off households with more land and non-land assets. Agro-industrial employment is found to benefit rural households directly through increased income from wages and indirectly because these wages are partially invested in the households' own farm business, leading to higher outputs and farm incomes.

Third, in the tomato export sector in Senegal rural households only benefited through labour market effects, as there is zero procurement from smallholder farms. This case study also shows that it is mainly the poorest households who benefit from the labour market effects of increased high-value horticulture exports. Households employed in the tomato export industry, either on the fields or in the processing units of the company, have incomes that are more than double the income of other households in the region while they initially, before the multinational company started the investments in tomato exports in 2003, had lower land and non-land asset holdings. Increased tomato exports have resulted in increased employment, increased incomes and ultimately reduced rates of poverty and extreme poverty.

The main conclusion of this paper is that increased high-value trade can bring about important positive effects for rural development and poverty reduction. In addition, the case-study results show that high standards in international markets and increasing foreign direct investment in developing countries food sectors are not necessarily barriers to trade and development; they can be catalysts as well. Even with stringent standards, high levels of consolidation and vertical coordination in supply chains, positive welfare implications can be found. Part of these effects comes through product markets but also employment and labour market effects are important, particularly for the poorest rural households. This implies that strategies to improve the welfare effects of high-value trade need to include strategies for creating inclusive food supply chains from which smallholders are not completely

excluded as well as strategies for the development and improved performance of rural labour markets. Finally, the case studies show that it is not necessarily either agro-industrial farming or smallholder farming. Important linkages might exist between the agro-industrial sector and the smallholder sector that bring about positive development effects.

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## SUPPORT TO VALUE CHAIN DEVELOPMENT

**ALBERT ENGEL, GTZ, GERMANY**

The German Development Cooperation is currently at a crossroad. The new government policy intends to focus more prominently on agriculture and rural development. This conforms to the conclusions of the G8 summit in July 2009 where high-level decision makers recognised the importance of food security and the role of agriculture as a motor for pro-poor growth. The necessity to link farmers to markets is recognised as a key-element to obtain this objective. Access to capital is often not the most crucial constraint. Capacity development and finding appropriate technical solutions are often more important in a development strategy. The challenge is to look from a broader perspective and there the concept of value chain development can definitely contribute to success.

The value chain approach can positively influence trade and crop productivity (see presentation of Miet Maertens), especially for fruits and vegetables for which trade depends on special standards of origin, quality standards, availability, etc. In this context the importance of close cooperation among the producers, processing industry, traders and supermarkets has increased worldwide. Equally crucial is the networking between firms in order to promote investment and enhance value addition. However, markets do not always develop and function on their own and growth potential often remains unused. Very often public support services are insufficient, rural infrastructure is lacking, legal and administrative rules are often inappropriate, and levels of skills, trust, transparency and capacities are further constraints. From a development policy perspective, the advantage of value chain development relates to the basic principle that economic development generates social benefits. Through value chains, enterprises can be better integrated into markets, jobs are created, tax income is increased and sometimes marginalised regions can catch up. These arguments are important to justify public financing and public support to the development of value chains.

The value chain concept takes into account the entire sequence of production and marketing steps, ranging from production, processing, distribution, and retail up to the end-users. But apart from these steps it also captures the entire range of actors, i.e. farmers, enterprises, traders, service providers. In applying the value chain concept the entire analysis should be structured

around market requirements. It also helps to identify and delimit interested stakeholders and partners with whom you need to cooperate. It addresses economic and institutional viability, and aims at coordinated and systemic interventions. Finally it facilitates measuring the impact of the intervention. This perspective on the approach seems logical, but it hasn't always been applied in the past, when projects were conducted looking into a specific area, production for example, and at best that led to isolated islands of success without lasting effects.

The methodology that *Deutsche Gesellschaft für Technische Zusammenarbeit* (GTZ) currently applies follows some basic and logical steps (Figure 10). It starts out by setting the project boundaries. First of all it has to be decided whether to engage in value chain promotion or not. A particular value chain for promotion is then selected, taking into account the national framework. In those African countries where a CAADP compact has already been signed, this compact will guide the selection of an appropriate value chain. The value chain should then be analysed in more detail, an upgrading strategy for the chain should be determined, and the chain development process should be facilitated. This will be followed by a series of implementation steps. The first aim is to strengthen business linkages and how to do that, then to engage in public-private partnerships, to look at strengthening service systems, at the financing of the value chain, at the social and quality standards, and at improving the business environment of the value chain. Finally, you look at the monitoring requirements that exist for each of these steps. All of this is put in a modular form to be able to carry out a systematic analysis (Figure 10).

An example of this approach is the involvement of GTZ in the value chain promotion of cashew nuts. This export commodity represents a global market turnover of 1 billion US dollars per year, with a relative high share of the production coming from Africa (about 750,000 MT); other important producers are India, Vietnam, Brazil and Indonesia. Most of the raw cashew nuts (95%) are exported, and export mainly goes to India for value added processing. On the other hand, the biggest markets are Europe (32%) and the USA (21%). Cashew products in the so-called conventional markets are mainly the products that are derived from the kernel (i.e. roasted cashew nuts, salted,

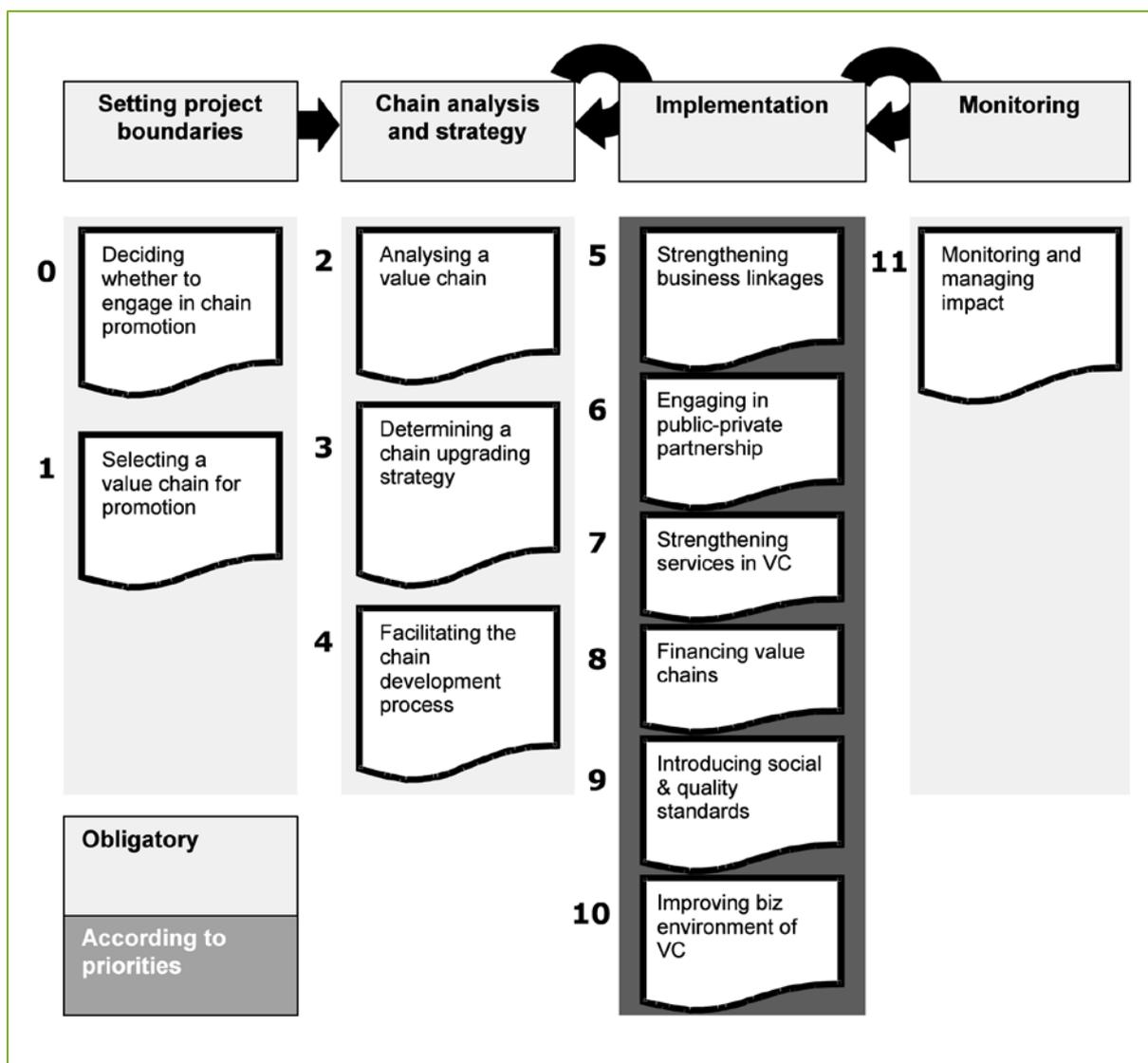


Figure 10 The modular value chain implementation methodology

chocolate-coated, cashew nut butter, chocolates, curries and the like). Less important, often a bit overlooked, are niche-markets for by-products. The apple as such can be consumed in various forms, and there exist some local markets. You can produce juice, wine and brandy. Using the shell you can extract oil that is used for industrial purposes etc. Processors that were interviewed estimate that through a better utilization of these by-products their overall revenue can be increased by 5 to 10%.

The value chain for cashew nuts ranges from production of the nut, picking, drying and storage, local processing and roasting, international marketing, to processing and roasting abroad. The idea of getting involved in value chain promotion is that the highest possible proportion of added value should remain in Africa. The challenges are numerous: Cashew is produced mainly by smallholders on plot sizes ranging from a half hectare to four hectares, and productivity is extremely low with 1.5 to 4 kg per tree, compared

to 11 kg in Vietnam and 17 kg in Brazil. There is a lack of good agricultural practices. The producers are poor farmers; in Africa there are roughly about 2.5 million rural poor cashew farmers. Their income ranges between 140 and 600 US dollars annually. And for a good portion of them about half of their income is derived from cashew nuts. Challenges in cashew processing include the labour-intensive cracking and shelling of the nuts, for which labour and safety standards have to be taken into account. The amount of broken kernels during this cracking and shelling has to be minimised, because this greatly influences profitability. Finally, there is a peeling and grading process in which a particular grading system exists. Quality is key here because it determines marketability.

Opportunities for the cashew nut value chain lie in added value. Cashew nuts are a poor farmer's crop, but in fact it's also a luxury good, and the distribution of the added value along the value chain remains highly unequal. The farm gate price for a metric ton of raw cashew nuts is US\$ 300 while the equivalent price at the retail side of the chain can go up to 20,000 or even US\$ 30,000 per ton. Given the fact that most cashew nuts are exported to Asia, while the biggest markets are in Europe and the US, it is calculated that West Africa has a transport cost advantage of 15 to 25% over Asian processors. That is equivalent to an advantage of US\$ 60 per ton of processed nuts. Thus, if it would be possible to process 650,000 MT of raw cashew nuts locally in Africa, then Africa would gain about a 1000 new processing businesses, 250,000 new jobs, and US\$ 150 million in increased foreign earnings annually.

To address this opportunity, the *African Cashew Initiative* was launched. It operates in Benin, Burkina Faso, Ivory Coast, Ghana and Mozambique. The overall budget is estimated at US\$ 50 million for 4 years, of which half is provided by the Bill and Melinda Gates foundation. Three million comes from the German government and US\$ 22 millions expected from private partners: international trading and food companies. Over the first 4-year period the aim is to reach about 150,000 farmers. This could provide an additional income of US\$ 15 million for these beneficiaries, plus the creation of about 5,500 new jobs. If this proves successful, it is calculated to reach 500,000 farmers over the next 10 years, with

an additional income of US\$ 80 million and 20,000 new jobs created.

The main project components are:

- Increasing productivity; 150,000 farmers increase their productivity by 50%, a third of them achieve international quality standards
- Increasing added value in processing; to create new jobs and increase processors' revenue
- Create strong business linkages; to establish Africa as a viable source of quality nuts and increase its market share
- Establish a conducive environment; to allow increase export revenues by 15%
- Learning and innovation for future up-scaling of successes

Market forces and growth potential should be taken as a starting point for self-sustaining economic development. The private sector has a key role to play in development and the value chain approach is a prime instrument for that. Value chains further facilitate the use of a systemic perspective on the economy as a whole and delimit "natural" areas of action; they avoid working into islands of success and into single areas that have no sustainable benefits. Finally, value chains require a multi-level approach; looking at the level of enterprises, sector-specific support services, as well as government institutions in parallel is crucial. A lot still needs to be learned but the value chain concept might be one of the most promising ways to raise smallholders' productivity, link them to markets and thus contribute to poverty reduction.

## CHALLENGES TO IMPROVE ACCESS OF SMALLHOLDERS TO LOCAL AND INTERNATIONAL MARKETS

**GUILLERMO MARAVÍ VEGA CENTENO, BTC PERU**

The fight against poverty of small-scale farmers through participation in global markets is a challenge but evidence on its full potential is limited. In Peru the majority of small producers are concentrated in the Andean region between 2,000 to 4,000 m above sea level. In addition to a hard climatic environment, land ownership is highly fragmented, leaving only small parcels for the majority of farmers. Even though these regions produce agricultural products, they are net buyers of agricultural products and the consumption basket depends on purchases carried out externally. These features lead to high rates of poverty (70%) and extreme poverty (30%) within the rural population of the Andean region. Poverty is a major cause for emigration of the mainly young population and the emergence of illegal activities linked to drug trafficking. The latter enables to achieve a higher income than traditional farming can currently offer. To enhance the competitiveness of agriculture in this context, the “Programa de Centros de Servicios Empresariales No Financieros en el Corredor Económico Ayacucho, Apurímac y Huancavelica”, i.e. the “Programme for Non-Financial Business Services Centres in the Economic Corridor of Ayacucho, Apurímac and Huancavelica”, (BSC Programme) was launched in the 3 poorest Andean regions of Peru.

The BSC Programme is a joint effort by the Ministry of Production, the Ministry of Foreign Trade, Tourism and Crafts, the Ministry of Labour of Peru and the Belgian Development Cooperation. It seeks to establish a link between value chain and local economic development. The aim is to support value chain that will promote local economic development. This approach aims at promoting the inclusion of small farmers with respect to their culture and ancestral knowledge. At the same time the BSC programme tries to take into account the heterogeneity of agriculture, land ownership and the existence of a highly diverse ecosystem. The essential condition for increasing competitiveness of agriculture is to focus on products differentiation, and product quality responding to demand. The richness and specificity of Andean ecosystem and the prevailing production conditions provide the basic conditions for this purpose.

The BSC Program experience showed that when a product is not differentiated with respect to the product of the majority of other farmers, it is difficult to

achieve a long-term linkage that will benefit small producers. It is only with a specific product that organised smallholders can attract the attention of larger companies and negotiate better marketing conditions. In this regard, the emphasis is on how to differentiate the product. Several ways exist, ranging from products that are certified (organic, GLOBALGAP, etc), to products that meet technical production standards, selected and classified products, etc. For example, to compete on International markets, BSC Programme supported production and export of exotic products that shows high demand in Europe and Japan such as kiwicha and tara.

Once the product is differentiated, small producers can participate in a value chain through linkage with the other stakeholders of the chain (e.g. local buyer, wholesaler, processor and retailer). When all stakeholders are committed to the development of a product, it is possible to build partnerships in which everyone benefits. This is essential in order to achieve formal commitments that ensure the conditions and lasting nature of the relationship. The value chain should be one single company and not a combination of different companies of stakeholders. Furthermore, level playing field has to be created so that each stakeholder can have the same influence.

The smallholders in the BSC programme participate as main actors in the value chains. The advantages for the poor should not depend on goodwill and good intentions but be based on a wider competitiveness for the benefit of all participants involved. The goal is to achieve the participation of small farmers in larger markets, and to achieve that such participation is in everybody's interest. Smallholders are organized, they have different products to offer and they negotiate terms to sell the products and provide services. To further develop and consolidate these results, the BSC programme has developed various support tools for every production unit or enterprise of the different segments of each value chain. Management skills of small producers were supported through technical assistance, trainings on quality standards, organic certification, technical norms, and management. Local buyers were supported through creation of producer's organisations, creation of trademarks, realisation of business plans and consultancy on managements.

To identify the type of value chain to work on, the BSC Programme has designed a chain analysis system, in which each value chain is evaluated and bottlenecks that hinder its development are identified. The analysis starts from every actor's own perception and takes into account five analysis variables: market identification, design and development of products and services, production, management level, and institutional environment. Similarly, this analysis system allows guiding the participation of state institutions and thereby ensuring complementarity of actions and investments between the private and public sector, to the benefit of the poorest. The tools developed in the framework of the programme should enable every actor of the different value chain segments to participate in an efficient way in the value chain, and should allow a broad competitiveness among the many stakeholders involved.

## REFLECTIONS OF A DISCUSSANT FROM THE PRIVATE SECTOR PERSPECTIVE

**BEATRICE GAKUBA, RWANDA FLORA, RWANDA**

Rwanda has been able to turn the ashes of genocide in something human and productive. One of the underlying causes for the events in 1994 was poverty. Therefore fighting poverty is crucial. This implies commitment of the government to agriculture and small-scale farming. We came a long way, but now there's the Vision 2020 where agriculture and horticulture are priorities. In few years we have been able to set up a good institutional framework; the policies and strategies are in place, although there are some gaps in the implementation. Rwanda is also one of the few countries that signed up for a CAADP compact.

For example, for rose production East Africa is a competitive region as Kenya has a 31% share in the global rose trade. Still, Rwanda takes on the challenge and Rwanda Flora is exporting quality A1 roses while employing mostly female small-scale farmers.

More than 66% of the people in Africa are living in rural areas. Small-scale farmers make up 80% of them and they're characterised by a string of challenges: abject poverty, declining yields, traditional hand-held tools, pest-infested gardens, fragmented land, over-reliance on weather, etc. One wonders if small-scale farmers will ever be able to seize the opportunity to turn agriculture into a profitable wealth creating business. However this transformation can and is happening. African small-scale farmers nowadays grow for subsistence and this mindset should be changed. Poverty is not just about access to food only; it's about income levels. People who live in urban areas buy food, because they have an income. We have to think in the same way about the small-scale farmers. When assisting this transformation, development partners and governments have to understand that small-scale farmers want to harvest money, not peanuts.

The poorest of the poor is still a woman; therefore the gender issue is important. This poor woman is living in the rural area; she has no -or difficult- access to water, fertiliser, or land. She's pregnant, with a baby on her back, tilling the land with a traditional tool. This woman is marginalised and has serious constraints to enter the export supply chain that was mentioned in the presentations, unless we address their issues. With the renewed interest in agriculture from the donors and our governments, it should be ensured that focus is given to women.

The transformation of the small-scale farmers' livelihoods is only achievable with a well-sequenced collaboration between 3 actors: the government, the development partners, and the private sector. Implementation is the role of the private sector through its entrepreneurs that dare to take initiatives and risks. The role of governments and development partners is offering public goods, supporting finance, rehabilitation of roads, rural infrastructure, storage facilities, etc. Their role is not implementation. Moreover, donors and governments have to change their minds about working with the private sector. In developing countries there's a confidence gap between the public and the private sector and therefore there's also an implementation gap.

There are however examples on the positive side: In Rwanda we have RHODA: the Rwanda Horticulture development Authority ([www.rhoda.gov.rw](http://www.rhoda.gov.rw)), this institution provided support to Rwanda Flora, a Rwandan flower producing and trading company, to become a social entrepreneur. Rwanda Flora is also open to partnerships with donors and received support e.g. through training our women and youth on new models of agricultural production. It has been possible for Rwanda Flora to engage in social activities at the farm level: medical aid, HIV counselling and control, family planning, ensuring education and immunisation for all children of our personnel. Investing in social activities and making sure that the families have access to services and information has been a win-win for everyone. It's good for the wellbeing of our workers and their families and it actually increased productivity.

With regard to the presentations of this session some clear challenges pop up. The government needs to give priority to resolving the issues of land tenure. Land tenure is a difficult issue due to its political, cultural and traditional aspects, but it's also a critical issue because small-scale farmers need security to invest. Nobody can invest in land that is not his. Land fragmentation is a related challenge; it impedes the use of modern implements like tractors, which makes modern farming costly and unprofitable.

Some examples of large companies exporting to the international market have been presented. When exporting any agricultural product there are two important issues: volume and quality. Volume is important, certainly in a landlocked country like Rwanda,

to reduce the share of transport costs. Good quality is of utmost importance as it determines the access to the market and the price. To be able to enter the international market and compete extensive business knowledge is indispensable. All international markets whether in Europe, America or Asia have their own set of stringent norms and standards that require knowledge on a wide range of complicated issues like rules of origin, phytosanitary measures, non-tariff barriers, all sorts of certification, etc.

Multinational companies are dominating the export market. They're able to export because they can provide sufficient volume and quality, they have the know-how and understand the markets, often they already have their own established market, they have already built a name, and so on. Since exporting to international markets is already difficult for those who supposedly have knowledge and capacities, it's clear that there is no way a small-scale farmer - who has difficulty in having access to land, credit, education, skills and knowledge - can export directly to the international market and be competitive with large companies.

However, smallholders can link with large companies through contract farming. Those companies can help them to produce good quality, and they add value, pack and export their products. The advantages for the countries in which these multinationals operate are that they gain a name and skills, and that their agricultural export sector is contributing to poverty alleviation through income generation for smallholder families. However care has to be taken that these exports by multinationals don't turn into international exploitation.

The presented case studies were eye openers to the fact that donors and the government should assist small-scale farmers to upgrade their skills participate in the supply chain for export. As in the case of Peru, they can be empowered to first trade in the local market, upgrade their quality and play on the regional level, and after that graduate in the international market.

A challenge in contract farming is outsourcing to smallholders. Sometimes these smallholders don't understand the issues of contracting or lack the knowledge or possibilities to produce good quality. It's a challenge for the companies, but also for the smallholder

since when his produce is rejected by the contracting company this has serious consequences for him.

A lesson learned is that for a successful value chain you need syndication of different players: the private sector, donors and governments. That's true for any export product, if this prerequisite is not fulfilled success doesn't happen. Implementation will not be there without the private sector. Moreover, governments and donors should be on the outlook of those private sector actors who are involved in social activities. Not the whole private sector is in it only for profit. Some also go for social profit for their workers and families.

## DISCUSSION SESSION 4 – GETTING AGRICULTURE AND RURAL ENTREPRENEURSHIP MOVING

### SELECTION OF QUESTIONS AND ANSWERS

*Can value chains and/or market-oriented approaches constitute a solution for the rural poor?*

- The value chain approach is based on the notion that raising productivity of smallholders and linking them to markets is a key element in eradicating poverty. Steve Wiggins pointed out that you also need social transfer systems and cannot rely on the market alone. In a parallel fashion territorial approaches should be pursued, focusing on the potentials to develop a region in its entirety. The value chain approach has been neglected on many fronts and needs more attention, but it's indeed not the only solution to reducing poverty. (Albert Engel)
- Social safety nets remain crucial because poor people are often the most constrained to work with private companies and that high value export chains will not suddenly include all the poor. (Miet Maertens)

*What is the role of the state in value chains?*

- The role of the state in value chains is essential, given the need for a conducive legal and policy framework, a sound planning of rural infrastructure, etc. Development cooperation has however often overly focused on this aspect. Private sectors involvement is crucial when supporting the development of value chains and this has often been neglected in the past. (Albert Engel)
- The government has a role in the development of infrastructure apart from creating a conducive policy environment. Senegal was successful in its horticulture export sector, also because the government heavily invested in creating infrastructure (e.g. cold chains at the port and airport, laboratory units for conformity assessment with European standards etc). (Miet Maertens)

*How can we guarantee the ownership of the small-scale farmers in the value chain and prevent that the cooperation between smallholders and multinationals collapses?*

- It is important to understand why companies leave a certain market or country, or why they shift to another system of production or procurement. The increasing importance of European public standards has been an important factor in the shift from smallholder contract farming to large-scale estate farming. Exporting companies are afraid they cannot comply with the standards if they keep on sourcing from smallholders. But when we look at the Senegal case, there has been EU investment especially in getting smallholders to become GlobalGAP certified, in collaboration with the private companies. That has been successful and there's a shift from estate farming towards smallholder production. Understanding why companies change their sourcing strategy is important in addressing this problem. (Miet Maertens)
- The break down of the added value in the value chain is a key issue. In the framework of contract farming, most of the added value doesn't return to marginalised farmers or to farmers' organisations. We could help production entities to become shareholders in the companies that process or market the product. In Ghana there are unions of cacao-producers that have a 30% share in the processing plants and that market the chocolate in Great Britain. Last year BTC's Trade for Development Centre supported setting up an international company that markets fair trade nuts. (reaction from the public)

***A study by the Latin American magazine Ruralter showed that 70% of small enterprises run by farmers' organisations and supported by International Cooperation projects didn't survive 5 years. How can the sustainability of the type of enterprises that were presented by Mr. Maraví be ensured?***

- From other studies we know that crucial factors for success are the need for professional management and a well-defined market. Using this conclusion, BTC in Peru didn't set up new enterprises but started from existing initiatives that needed empowerment. These enterprises were supported to face business opportunities, and gradually developed into higher levels of organisation and institutionalisation until forming cooperative consortia or formally established enterprises. (Guillermo Maraví)

***Why were farmers' organisations not mentioned in the presented cases?***

- Farmers' organisations remain important but their role has shifted. Traditionally the government extension services and farmers' organisations focussed on providing technology to farmers. Nowadays requirements are very specific in high value export markets and private companies often have a technological knowledge advantage. In the beans export sector in Senegal, one national farmer organisation invested and engaged in exporting. However, after a few years it was left out of the sector because it didn't have the commercial network, the technological knowledge advantage, etc. Instead of trying to compete with the private sector, farmers' organisations should try to partner and link their farmers to this private sector and lucrative markets. (Miet Maertens)
- In Senegal the contracts were mainly individual contracts with farms because farmers' organisations had clearly chosen not to collaborate with these companies. Private companies discuss with village leaders which farmers could produce for the export markets and the produce is then collected at the farm gate. (Miet Maertens)

***Is the Cashew Initiative compatible with the current issues of the Paris Declaration?***

- Having national actors in the driver's seat is one of the principles of the Paris Declaration. When identifying what value chain to engage in, the point of reference are the national strategies. Three of the five countries involved have signed a CAADP compact. In these compacts the most promising opportunities in terms of commodities are identified and constitute the reference points. Without this linking into national strategies and assuring governments' commitment, the value chain approach would not work. Further, all stakeholders have to be involved, but they speak different languages and have a different notion of development. It is important not only to get the technology and strategy right, but also to facilitate a process that makes this stakeholder cooperation really work. There is a role here for development cooperation but the principles of the Paris Declaration are often interpreted in such a way that there is a preference order in support modalities; i.e. 1) budget support, 2) basket funding, 3) integrated projects, and 4) individual projects not linked up to national programmes. That's a completely wrong notion. You need a situation specific mix of modalities that is different from sector to sector and country to country, and all different modalities have their place. Integrated project support has an important place in value chain development. Also for the Cashew Initiative a lot of money is coming from foundations and the private sector, only budget support would not make it going. (Albert Engel)

***What strategic contribution small development cooperation agencies like BTC should make to support agriculture fight against poverty and hunger?***

- All initiatives should be location specific. For example in the Senegal case there's the challenge of linking more smallholders to export markets. But donors might also play a role in setting up saving schemes and not just focussing on credit supply. Most of the women employed in the agri-food sectors have never been working outside their own farm and suddenly earn a wage. They have no access to banks and often don't know how to save. This in turn could then help other smallholders with credit. (Miet Maertens)
- The big challenge for development agencies is to support the development of models that allow guiding other entities like governments and show what are possible interventions. The value chain approach allows orientating the participation of different actors, both public and private, and defining clearly and specifically what the role of each of the actors is. An example related to gender is a BTC-programme in Peru that helped a local government identify where it could act to stimulate development and empowered women suffering from domestic violence by having them earn a wage through exporting handicrafts. (Guillermo Maraví)

***Did the national framework represent advantages to the players of the value chain in the Peruvian experience?***

- Although there exists a decentralisation process, whereby funds are transferred to the regional and local authorities, there exist little or no coordination between the national and regional/local level. Some national programmes are still implemented without taking into account local actors. Our challenge is to support local and regional structures in their daily policy management, related to orienting budgets, prioritising infrastructure and issuing technical norms. (Guillermo Maraví)

***What can public, private and donor institutions do to tackle the issues of smallholder farmers?***

- It is a question of commitment; the public sector and the donors can support the small-scale farmers through investment in extension, infrastructure, certification and training. Certification is necessary to export to international market and compete with other players. The public sector and the donors have to understand the complementarities between the public and the private sector. You cannot expect the private sector to come into a country, trade with small-scale farmers and moreover pay certification for them. The private sector always wants a return on investment. Donors, the public and the private sector should constantly dialogue, should build trust, and live up to commitments made. Agriculture is the solution to ending poverty and hunger and investments in agriculture have to be in proportion of the number of people living in rural areas. (Béatrice Gakuba)

***What kind of farming is most adequate to uplift the living standard of the poor farmer, food crop farming or market oriented farming?***

- The issues for the food crop marketing are similar to those of high-value export crops. Food crops produced for the local markets also need to be upgraded. For example, rice production in a lot of African countries faces competition with cheap imports from Asian countries. In Senegal, farmers managed to introduce added value by simply sorting their rice better in terms of the length of the grain. This allowed them to target differentiated markets, including the urban markets within Senegal. With such simple actions, they upgraded their income and the value chain. (Miet Maertens)
- Export is good for the food production and agriculture in a country as a whole, both in terms of quantity and quality of produced goods. The EU market for example has strict standards and the multinationals involved reject the produce if the quality is not up to standards. But gradually, the small and medium enterprises involved in the production learn to upgrade the produce quality and improve their knowledge. Export goods are graded according to quality. The first grade goes to the EU market, but the second and third grade, that are still of good quality, go to local or regional markets. (Béatrice Gakuba)
- We shouldn't only think about external, but also about internal markets. The challenge is to improve quality of internal markets at local, regional or national level. For example, we are working with the Ministry of Agriculture on the set-up of a technical norm for the native potato, a domestic product of Peru, to use in the plots of small producers. (Guillermo Maraví)

# ***SPEAKERS' PROFILES***

## **THEME 1**

### **PAULINE ZWAANS, WORLD BANK, WASHINGTON DC**

Pauline Zwaans works in the World Bank's Agriculture and Rural Development (ARD) Department. She has been instrumental in setting up and operationalising the World Bank's Global Food Crisis Response Program and is currently part of the core team developing the Global Agriculture and Food Security Program (GAFSP) following the request to the World Bank by the G20. In addition, she has helped to coordinate ongoing work to better understand and inform public spending in agriculture. Prior to joining ARD, she led the World Bank's response to Avian and Human Influenza in close collaboration with the United Nations.

She holds Masters Degrees in International Development and Economics from the Johns Hopkins University School of Advanced International Studies, and in International Relations from the University of St. Andrews, UK.

### **STEVE WIGGINS, ODI, UK**

Steve Wiggins is Research Fellow and Programme Leader within the Rural Policy and Governance Group (RPGG) of the Overseas Development Institute (ODI). He is an agricultural economist and has been studying and working on agricultural and rural development in Africa and Latin America since 1972. He has lived in Paraguay, Bolivia, El Salvador and Kenya; and worked widely, on shorter-term studies, in Africa and Latin America.

During the last five years his work has included studies of livelihoods and small-scale dairying in rural Mexico, environmental policy in Ghana, food security in Bangladesh and Southern Africa, including topics like the impact of HIV/AIDS, the rural non-farm economy, and the future of small farms. His recent areas of research include also rising food prices, role of biofuels and policy responses.

### **OUSMANE DJIBO, NEPAD SECRETARIAT, SOUTH AFRICA**

Ousmane Djibo is Advisor in agro-business at the New Partnership for Africa's Development (NEPAD) Secretariat in South Africa, in charge of the coordination of the implementation of the Comprehensive Africa Agriculture Development Programme (CAADP) at country level.

His expertise is situated in the field of rural development, agricultural policy making, rural finance and promotion of value chains. He worked as a technical advisor in micro-finance and in promoting value chains with GTZ in Burkina Faso from 2002 to 2008. Ousmane Djibo holds a degree in Rural Sociology and a Master in Development Economics from the University of Ouagadougou (Burkina Faso), and a Master in Cooperative Economics from the University of Marburg (Germany)

### **OLIVIER DE SCHUTTER, UN, BELGIUM**

Olivier De Schutter is the UN Special Rapporteur on the right to food. A professor of international law at the University of Louvain and at Columbia University, he was until 2008 the General Secretary of the International Federation of Human Rights. He published widely on globalisation and human rights and on social and economic rights.

## **THEME 2**

### **LUC CHRISTIAENSEN, UNU-WIDER, FINLAND**

Luc Christiaensen is a Senior Research Fellow at the United Nations University-World Institute for Development Economics Research (UNU-WIDER). He conducts applied policy research on poverty and well-being, agriculture, and rural development. Before joining UNU-WIDER, he worked in the Africa and East Asia Region of the World Bank.

He has a PhD in agricultural economics from Cornell University. Some of his recent publications include "Revisiting the Global Food Architecture - Lessons from the 2008 Food Crisis" (2009) and "Down to Earth: Agriculture and Poverty Reduction in Africa" (2007).

### **P. CHENGAL REDDY, CIFA, INDIA**

Chengal Reddy is the Secretary General of the Consortium of Indian Farmers Associations (CIFA). Its activities are supported by Agriterra. Mr. Reddy is also the Co-Chairman of the Indian Farmers & Industry Alliance, and Coordinator of the Indian Parliament Members Farmers Forum.

It is Chengal Reddy's mission to empower 600 million linguistically and culturally divided small farmers

of India through their own organisations. Since 1998, he brought together local Farmers Associations and networked them at state and national level.

He initiated strengthening of small farmers through Commodity (Producers) Interest Groups (CIGs). The CIGs were assisted in preparing a status paper containing issues related to productivity, extension, resource availability, marketing and policy issues. He assisted the CIGs in linking with markets and processing industries. He established contacts between farmers associations and industrial associations.

As such, Mr. Reddy is a pioneer in promoting the concept of independent and empowered professional farmers associations to articulate their issues through their own organisations.

Mr. Reddy edited a monthly Magazine 'Agri Policy Advocacy' and published a large number of articles and participated in many international conferences.

**LARS CHRISTIAN OXE, DANIDA, DENMARK**

Lars Christian Oxe is currently Chief Technical Advisor for economic development in the Technical Advisory Services of the Danish Ministry of Foreign Affairs.

Since 2000, Mr. Oxe has been working in the Ministry of Foreign Affairs with agriculture, rural development and private sector development. His main responsibilities have included technical appraisals and reviews of Danish bilateral programme support as well as competence development and back-up to field level staff. He has been working mostly in East and West Africa with a posting in Mozambique in 2004-7. Prior to his work in the Ministry, Mr. Oxe worked as a technical advisor in Tanzania (1997-99) and as a consultant in agriculture and rural development.

His educational background includes a MSc. in agricultural science (soil conservation) and a BSc. in political science.

**GERT ENGELN, VREDESEILANDEN, BELGIUM**

Gert Engelen is advocacy officer at Vredeseilanden (VECO), a Belgian NGO specialised in facilitating market access for organised family farming through multi-stakeholder dialogue. He is chair of the VODO working group on sustainable agriculture, a platform of civil so-

ciety organisations in Flanders region in Belgium. He is member of the steering group of Concord European Food Security working group. He has been facilitator of the European Platform for Food Sovereignty for the last five years. He is chair of a direct farmer link organisation in Belgium called 'Voedselteams' (Food Teams).

**THEME 3**

**MONTY P. JONES, FARA, GHANA**

Monty Jones is the Executive Director of the Forum for Agricultural Research in Africa (FARA). There he oversees efforts to improve regional agricultural research in Africa, with the goals of improving food security, reducing poverty and increasing economic growth.

Monty Jones is the co-winner of the prestigious 2004 World Food Prize. He won the award based on his work at the West Africa Rice Development Agency (WARDA) where he led the team that successfully discovered the genetic process to create the New Rice for Africa (NERICA) which gives higher yields, shorter growth cycles and more protein content than its Asian and African parents. Through this work WARDA was awarded the prestigious CGIAR's King Baudouin Award in 2000. In 2007, Jones was listed among Time Magazine's 100 Most Influential People in The World. This year, Jones received an honorary PhD from Ghent University.

Monty Jones is a Sierra Leonean and obtained a BSc in Agriculture General from Njala University in Sierra Leone, followed by a MSc in Plant Genetic Resources and a PhD in Plant Biology from the University of Birmingham in the UK.

**BERTUS WENNINK, KIT, THE NETHERLANDS**

Bertus Wennink is based at the Royal Tropical Institute (KIT) in Amsterdam as a Senior Researcher (applied and action research), Advisor and Trainer since 2003. He joined KIT in 1994 and has experience through long-term assignments in Burkina Faso, Mali and Benin and short-term expert missions in West and Central Africa for donors, government organisations and NGOs including World Bank, the European Union, The Netherlands Ministry of Foreign Affairs (DGIS), National Agricultural Research Institutes, Farmer Unions, and Dutch NGOs.

Mr. Wennink is a specialist in multi-stakeholder approaches for local economic development, design of sector support programmes, management of demand-driven agricultural services, capacity strengthening of farmers' organisations, and natural resource management. He has additional expertise in the design and implementation of approaches and tools for action-research and training in these areas.

**GUY MERGEAI, GEMBOUX AGRI-BIO TECH, BELGIUM**

Guy Mergeai is Professor at Gembloux Agri-Bio Tech (University of Liège) specialised in plant breeding and agricultural production systems with low resources in the tropics. He joined the Faculty of Agricultural Sciences of Gembloux in 1988 after 4 years of field-work within two projects supporting agricultural research in Togo and DR Congo. He was the promoter of a dozen agricultural research projects in Sub-Saharan Africa (Kenya, Uganda, DRC, Senegal) and South America (Colombia, Peru). He conducted missions in the tropics related to research, development and education. He's the chief editor of the journal *Tropicicultura* and managing director of the non-profit organisation Agri-Overseas since 1997, and President of the NGO Development Assistance Gembloux since late 2000.

**RAF SOMERS, BTC, VIETNAM**

Raf Somers graduated as a veterinarian from Ghent University in Belgium in 2000. After starting his career in South Africa, he came to Vietnam in 2001. For several years, he conducted research in the National Institute of Veterinary Research (Hanoi) in collaboration with Ghent University on diseases that transmit between pigs and humans. Since 2005, he works for the Belgian Technical Cooperation (BTC) as the Chief Technical Advisor of a dairy project in provinces surrounding Hanoi.

Raf Somers is the co-founder and driving force behind the organisation Dairy Vietnam, which brings all dairy stakeholders around the table and promotes safe milk production from profitable farms.

**PIET VANTHEMSCHE, BOERENBOND, BELGIUM**

Piet Vanthemsche is the Chairman of the Flemish farmers' association *Boerenbond*.

After six years as a veterinary practitioner, he joined the veterinary services of the Belgian Ministry of Agriculture in 1986. Between 1992 and 2000 he held senior management positions at the Ministry of Agriculture and the Office of the Minister of Agriculture in Belgium. From January 2000 to July 2002 he built up an independent consultancy firm. From July 2002 to May 2007 Piet Vanthemsche occupied various management positions for the Federal Government. He was successively Managing Director of the Federal Food Agency, Interministerial Influenza Commissioner and Managing Director of the Federal Drug Agency. Piet Vanthemsche is also guest professor at Ghent University and KULeuven and the director of the King Baudouin Foundation.

**THEME 4**

**MIET MAERTENS, KULEUVEN, BELGIUM**

Miet Maertens is Professor of Agricultural and Development Economics at the Division of Agriculture and Food Economics at the Faculty of Bioscience Engineering, Catholic University of Leuven (KULeuven). She obtained a degree in Bioscience Engineering and a MSc. in Economics from KULeuven. She made a PhD at the Georg August University Göttingen (Germany) on the subject "Economic Modelling of Agricultural-Land Use Patterns in Forest-Frontier Areas". Her research focuses primarily on topics such as the development of sustainable food chains, food standards and trade, gender and food security with a geographical focus on Africa and Latin America.

**ALBERT ENGEL, GTZ, GERMANY**

Albert Engel is Director of the Division Agriculture, Fisheries and Food at the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ).

Before taking up his present position, he worked as Sector Coordinator in Namibia where he was in charge of integrated water resources management, desertification control and marine ecosystems. Previously, he was Senior Advisor for rural development for three years. From 1995 to 2000 he worked as Regional Advisor for rural development Southern Africa in Zimbabwe. Before joining GTZ, Mr. Engel was partner at Team Consult Berlin where he was in charge of project planning and organisational development.

Mr. Engel holds a Master of Science in agronomy from Georg August University, Göttingen as well as a post-graduate degree in international rural / agricultural development from Technical University Berlin and a Master of Professional Studies in agricultural economics from Cornell University, Ithaca, New York.

***GUILLERMO MARAVI VEGA CENTENO, BTC PERU***

Guillermo Maraví Vega Centeno works for the Belgian Technical Cooperation (BTC) in a Programme for non-financial business service centres. With over 15 years experience in advising companies, business organisations and management of rural development projects, he's strongly involved with the issue of rural, regional and business development.

He is an economist, with a Master in Economics and Social Management from PUCP, Peru. He did post-graduate studies in Rural Development at the Weitz Center for Development Studies, Israel, and in Social Management at the University of Barcelona, Spain. He is the winner of the third prize of the competition for Integrated Development Projects, in memory of Prof. Ranaan Weitz, Weitz Center, Israel.

***BEATRICE GAKUBA, RWANDA FLORA, RWANDA***

Beatrice Gakuba is CEO of Rwanda Flora, one of Rwanda's thriving businesses and has been hailed by international leaders as an example of the potential success of entrepreneurship in economically revitalising economies in African countries. She was the subject of World Bank President Paul Wolfowitz's address to the United Nations General Assembly at the September 2005 World Summit.

After a 20-year career in poverty alleviation with the United Nations and other development organisations, Ms. Gakuba returned to her native Rwanda in 2003. She purchased Rwanda Flora in early 2004 and transformed the small farm into a socially responsible operation that currently employs almost 200 rural women. Ms. Gakuba also serves as a consultant throughout Africa on entrepreneurship and post-conflict/post-genocide transition and development.





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