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Edited by Mats Hårsmar

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Introduction

*Mats Hårsmar**

This volume comprises the proceedings from a workshop on "policy, poverty and agricultural development in Sub-Saharan Africa", which was held at Frösundavik, Sweden, in March 2006. The workshop was initiated and arranged by the Expert Group on Development Issues, which is linked to the Swedish Ministry for Foreign Affairs.

Sub-Saharan Africa is the only major region in the world where poverty is increasing rather than going down and where human development indicators tend to worsen. The region thus poses a major challenge to the achievement of the Millennium Development Goals by 2015. A major cause of this is the crisis in African agriculture, especially when it comes to the production of food staples, both for the rural population itself and for urban areas. Since the 1960s, agricultural output per capita remained stagnant and, in many places, declined. Africa is the only continent where cereal production per capita was less in 2001 than in 1961.

Over the years, considerable efforts have been made amongst researchers to analyse this crisis and its root causes (See for instance Kherallah et al., 2000; Djurfeldt et al., 2005; Inter Academy Council, 2004; Toulmin and Gueye, 2003; IDS, 2005). Recently, efforts have as well been made in the policy field. African governments have collectively engaged in the New Partnership for Africa's Development (NEPAD). Under a special session of the FAO Regional Conference for Africa in Rome on 9 June 2002, the *Comprehensive Africa Agriculture Development Programme* (CAADP), was first endorsed at ministerial level by African Ministers assembled. It has since then been officially adopted by NEPAD organs as the framework for the sector's development in Africa. The programme is meant to provide African governments, in collaboration with their development partners, with an opportunity for renewed and re-focused efforts to reverse decades of stagnating economic growth, low agricultural production and declining productivity, food insecurity and increased poverty in the region.

African governments have since then as well agreed to "adopt sound policies for agricultural and rural development, and committed themselves to allocating at least 10 percent of national budgetary resources for their implementation within five years" to the agricultural sector. This was declared in the *Maputo Declaration on Agriculture and Food Security in Africa* of July 2003. Heads of state and governments, participating in the African Union high-level meeting, signed the declaration.

In the donor community, for instance the World Bank and the European Commission have both made renewed efforts aimed at strengthening the agricultural and rural sectors, not least in their interventions in Sub-Saharan Africa. A number of bilateral donors have, in the framework of the OECD Development Assistance Committee, DAC, developed a common position paper (OECD, 2006).

* Head Secretary, EGDI, Ministry for Foreign Affairs, Sweden.

In a parallel development, a number of OECD countries try to enhance their policy coherence for development. Sweden is amongst the frontrunners in this field, actively looking into issues such as coherence between its agricultural, trade and development policies. Hence, the issue of Sub-Saharan African agriculture is high on many policy agendas.

In this context it was deemed relevant to bring leading researchers and policy-makers to a roundtable aimed at analysing binding constraints to the development of agriculture in Sub-Saharan Africa. The objective was to bring various perspectives together in order to not just understand the problems, but also to advice on how to act on them.

Every attempt at discussing “agriculture in Sub-Saharan Africa” is at the same time much too broad, as well as too narrow. Sub-Saharan Africa is not one homogenous unit and the diversity on this continent, in terms of agro-ecology, market conditions, policy frameworks and cultural characteristics, makes it very difficult to generalise about descriptions of problems, as well as about solutions. At the same time, agriculture may in many situations be too interlinked with other economic and cultural activities on the continent, as well as with economic and political conditions outside of it, to be meaningfully dealt with in isolation.

As shown by others (IDS Bulletin, 2005), agricultural development in Sub-Saharan Africa is dependent on a multitude of factors and the risk for oversimplification in dealing with it (“quick fixes”) is obvious. However, the approach chosen for this roundtable was to focus on productivity growth in the cultivation of food crops. This entry point enables an emphasis on what must be an essential component of every attempt at reducing poverty through agricultural development. At the same time, it allows for an analysis that brings in a vast number of primary and secondary factors, which all impact on agricultural growth and poverty reduction. The productivity entry point encompasses such diverse areas as public policies, human capabilities including health and education, the functioning of markets and institutions, other kinds of social relations as well as technology, and innovations.

This volume sets out with a discussion on the role of agriculture and food production in economic development in Sub-Saharan Africa more broadly. Peter Hazell argues that no other economic sector has the scale and potential to play the role of economic engine for the continent. Agriculture, and in particular food crop cultivation, is broadly spread over the continent, has considerable catch up potential, given the low levels of factor productivity, and has strong growth linkage effects, especially in the early phases of development. It may as well be a sector that is strongly pro-poor. The counter-argument is of course that agriculture has had a very bad track record in Sub-Saharan Africa, and that world market prices are very low. On the other hand, the manufacturing or the service sectors have not shown any better results. Hazell thereby dismisses the argument put forward by Collier (2006) about resource-scarce coastal economies adopting the East Asian development model of diversifying exports and harnessing the

country's endowment of abundant labour. According to Collier, land-locked countries could serve as labour resource pools, rather than develop as independent national economies.

Hazell's argument is, as well, reinforced by recent research into the emerging role of China and India towards Sub-Saharan Africa: "Policies, such as emphasizing the expansion of labour-intensive manufactured exports as a means for poverty reduction, may need to be qualified, in light of the increasing competition and falling prices for many such products, while vertical integration in resource-based industries will have to be supported increasingly", (Chen et al., 2006, p. 70). Chen et al. also point to the important challenges that lie in promoting agricultural progress in Africa, both because African food production may be relatively more secure from Asian competition, and because the increased Chinese demand for food products opens up possibilities.

If it convincingly may be argued that agriculture has an important role to play for economic growth in Sub-Saharan Africa, how then should such agricultural development be brought about? This is the theme of the rest of the volume. Gueye takes a in his chapter a somewhat less aggregated perspective, as compared to Hazell. He discusses the role of family farming in West Africa, and he is in particular concerned with what measures African governments need to take for this sector to survive and hopefully also thrive. Policy messages for African governments come across in all the various chapters, and what emerges specifically from Gueye's argument is first that the state has a very important role to play, and secondly the importance of supporting peasant and producer organisations. In situations of deregulation and liberalisation, such as those that have characterised many African countries during the last 10 to 20 years, a combination of government action and collective action from well-organised producer organisations may be what is needed to create and integrate markets. Governments have important roles to play in areas such as price policies, infrastructure investments, making vital information available, securing access to land, protecting natural resources and providing research and extension. However, without the active involvement of independent producer organisations, a development based on private initiatives will not be broadly based, and utilise the potential of the family farms.

The markets that governments are to encourage should provide small-scale farmers with market outlets and necessary production inputs. The social capital and trust needed for trade to take place over long distances, where personalised networks no longer suffice, need to be built or re-built. Conservatory power structures may need to be reformed, for markets of a more broadly inclusive character to evolve. There are as well essential gender aspects to take into consideration, not only in intra-household relationships (See for instance Ouédraogo and Ouédraogo, 1998, Yngström, 1997 or Haddad et al, 1997), but also when it comes to market access more generally (Freidberg, 1997). In particular, many prevailing land tenure systems carry as well important gender implications concerning issues such as women's inheritance rights, incentives for investments etc.

Another policy area where active involvement from African governments is needed concerns the role for research and technology as underpinning productivity increases in agriculture. According to Djurfeldt et al. (2005), there are important variations in food crop productivity at village level. A highly productive minority of cultivators reaches a substantially higher productivity than the majority, on the same kind of soils and under comparable conditions. The major difference has to do with access to assets. Hence, their perspective is greatly positive regarding what can be achieved if standard and adapted technologies may be utilised more broadly.

Jones describes, in his chapter, some of the most promising areas of new technology. Much progress has been made in the development of better-suited varieties of in particular cassava, banana tissue and rice. These new varieties have great potential since they are not demanding high inputs of fertilizer or irrigation, but may nevertheless contribute to substantially increased yields. In spite of these advances, and in spite of reports of increased yields where such varieties have been put to use, questions remain as to how new varieties may be put in production on a wider scale. Jones calls, in his chapter, for investments in new and better functioning innovation systems. Innovations need to link advancements in technology with the needs of users in the field, in an unbroken chain, and a network of inter-organisational linkages need to evolve, he argues. The reason behind Africa's low agricultural productivity is not any single factor, such as lack of finance, or lack of research skills, but rather the missing interaction between all involved actors. Hierarchical structures in current agricultural research organisations need to be opened up and decentralised, and multi-disciplinary, multi-stakeholder, multi-organisational systems of innovation need to be built, according to Jones.

Indigenous innovation has been a central feature of African agricultural development for a long period. However, indigenous innovations are mainly incremental, concerning things such as organisational and institutional changes, new seeds etc. They do seldom carry high income gains, which is why the importance of them is often overlooked (Ochieng, 2007, p 1f). Smallholder farmers are often the most significant innovators. In several communities, they account for as much as 90 percent of the seed needs (Kuyek, 2002). In spite of this, national agricultural research systems, NARS, are in most African countries modelled after what Rothwell (1994) calls the first generation innovation stage, implying that new technology is pushed onto the market, and farmers are perceived as the end users of this new technology. Donors have been pushing towards the second generation innovation stage, where focus is on market, or demand, pull. This reorientation has implied that most National Agricultural Research Institutes have created departments charged with issues of market orientation, under the labels of "post-harvest" or "socio-economic" issues. However, not much has so far been done to move towards the 3rd, 4th or 5th generation innovation stages, which would imply the linking of push and pull, the integration of market and R&D activities with strong supplier and customer linkages, or broad networking activities to

take place. Jones is obviously pushing for an evolution towards such more integrated models for innovation systems.

In making claims about innovation systems and its functioning, Jones adheres to the view that agricultural skill formation is not only a technological, but also a social process. Social networks can contribute to an increasing rate of technology diffusion. Such positions have earlier been reinforced by the work of Rogers (1995) and Rogers and Svenning (1969) who claim the importance of establishing close enough linkages between innovators, changes agents and subsequently also end users in local societies for new technology to be adopted. New knowledge may not be diffused without the presence of “social carriers of technique” (Edqvist and Edqvist, 1979).

By arguing along these lines, Jones indirectly links the issue of technological advances with the issue of the functioning of institutions more widely. Institutions should in this setting be understood as “rules of the game”, building on the work of North (1990). At the centre stage are institutions that affect the economic behaviour of food crop producers in Sub-Saharan Africa. Much of these would tend to be indigenous, or social, non-formal institutions, which may or may not be conducive of the development of markets.

There are at least two possible reasons why indigenous institutions may be of particular importance in African agriculture. First: since African states generally have lower capacities, informal norms, regulations and organisations tend to prevail in areas, which in industrialised countries tend to be regulated by law, and enforced by government structures (property rights enforcement, social security). Second: since rural Africa is characterised by low population density, sparse infrastructure and its societies structured along customary lines (Mamdani, 1996), it is likely that social norms in these areas are more resilient to economic and social changes, as compared to other settings. Further, under the social and agro-ecological conditions characterised by high vulnerabilities and risks prevailing in many parts of Sub-Saharan Africa, it is not surprising that indigenous institutions in rural Africa are guided by the principles of survival and equality (de Laiglesia, 2006).

Norms and practices aimed at ensuring the survival of a society and all of its members, often take the form of risk sharing. However, such equalitarian norms may as well considerably impact on economic behaviour outside the area of risk sharing – either by creating adverse incentives, or by affecting the formation of preference structures.

An emerging literature in this field is pointing to the possibility that in particular indigenous institutions may serve as bottlenecks for agricultural development in Sub-Saharan Africa (de Laiglesia, 2006; Hårsmar, 2004; Elbers et al, 2005). The question of institutional change comes to the forefront. What causes institutions to change is a highly contested issue. The difference in positions has part of its roots in diverging perspectives on the historical foundation of institutions. One attempt to better structure this debate is to make a distinction between “slow-moving” and “fast-moving” institutions (de Laiglesia, 2006). Slow-moving

institutions comprise social norms and culturally induced practices, whereas fast-moving institutions are to be found in the domain of legal and political systems. However, fast-moving institutions are still circumscribed by the set of slow-moving institutions that prevail in a society.

After a thorough discussion on institutions and their roles, Gabre-Madhin identifies a number of challenges when it comes to “getting institutions right” in African agriculture:

- The need for mechanisms to transparently grade and standardize products for market, from the production level on throughout the market chain;
- The need for market information that is accessible to all market actors;
- The need to foster competitive practices among all market actors, across all levels of the chain;
- The need for financial markets to respond to market needs for trade finance, for inventory finance, and for alternative financial products;
- The need for dispute settlement and regulatory systems to evolve according to market needs, and in a way that relies also on the private incentives for self-regulation, notably through the potential role of trade associations;
- The need for risk-transfer through mechanisms such as forward contracts and transferable warehouse receipts, and,
- The need for concerted efforts to build capacity throughout the marketing system, including cooperatives, small and medium private traders, and public actors.

In her view, what is needed is to perceive of market development as an integrated whole, rather than as the sum of piecemeal interventions. One possibility to promote such holistic approaches could be to start develop commodity exchanges. These may be understood as organized marketplaces, where seller and buyers interact, and where rules concerning the challenges above are formed. Such an illustration indicates that there are important roles both for private actors and for the state. What has hitherto been donor-driven, short-term and value chain oriented approaches to market development, needs to be replaced by longer-term, state-led efforts at market building. Further, the state needs to take all the three “I:s” – Institutions, Infrastructure and Incentives – into consideration, argues Gabre-Madhin.

By adding elements of technology, support to farmers’ organizations and the building of institutions and markets, a comprehensive program for African governments in the field of agricultural development is emerging. However, such efforts may still be in vain, if the overall global situation for agricultural trade is not changed. Werth analyses, in his chapter, what distortions international trading conditions impose upon agriculture in Sub-Saharan Africa. Even if net effects of increased world market prices on African food security is difficult to discern, there are still good reasons why the OECD countries ought to abandon their export subsidies (primarily the EU) and their export credits (primarily the US). Further, OECD countries should substantially lower tariff protection, including tariff peaks and tariff escalation, as well as their non-tariff barriers.

More controversial than such trade promoting recommendations may be Werth's argument that the "policy space" available for African governments need to increase. Without true ownership of reforms by African governments, reforms will not be meaningfully or consistently applied. Policy conditionality, as we have known it for some decades, has reached a dead-end. Hence, OECD countries are advised to stop force and lock-in open market reforms through multilateral organizations such as the WTO, or bilateral trade agreements, such as the EPA:s. Rather, domestically driven development and trade agendas ought to be supported. Such support should as well include efforts aimed at increasing agricultural productivity and production in Sub-Saharan Africa, according to Werth.

The message emerging from this volume is that a combination of interventions in many different policy areas would be needed to raise productivity in Sub-Saharan African agriculture. Such a coherent approach would arguably also need to take issues concerning water and natural resource shortages, as well as the long-term provisioning of ecosystem services, into consideration. It should as well also thoroughly analyse and find ways to deal with the devastating effects on the labour force and on reproductive strategies that HIV/Aids causes.

A common thread throughout the volume is the important role that the state has to play in promoting agricultural development in Sub-Saharan Africa. This role differs substantially from the role African states used to play during the period 1960 until the 1980s. Some of the "new" tasks concerns mainly regulation, setting of norms and standards and organisation. However, much is also a matter of resources, which of course asks the question whether African states actually have the capability to implement what may be expected from them.

Another challenge raised in debates at the workshop itself, and as well in following discussions, was the question why such an agenda as proposed by the workshop, would stand any chance of being implemented. Are preconditions any different today, as compared to the 1970s, when the integrated rural development – agenda was pursued? In order to take this debate further, another workshop was arranged in June 2006. Proceedings from that workshop will serve as the concluding section of this volume.

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The role of Agriculture in Pro-Poor growth in Sub-Saharan Africa

*Peter Hazell**

1. Introduction

Over the past 35 years, the international consensus on the importance of agriculture in economic development has varied from very high (until the early 1980s) to very low (1990s) to the current middling. Asia was fortunate enough to launch its agricultural and economic revolution at a time when interest in agriculture was still high. Africa was less fortunate and is now trapped in food crises, poverty and economic stagnation. However, even though agriculture is back on the agenda for Africa, the level of commitment amongst key donors and governments is mixed and the emerging strategy is very different from that of the past. Debate continues on both aspects.

I will first review the debate about the role of agriculture in Africa and then describe and evaluate the rural development priorities that seem to have emerged for the new Millennium.

2. What Role for Agriculture in Africa?

There are five major issues of contention in the current debate. These are described below and summarized in Table 1.

2.1 Scale

Proponents for agriculture argue that we need to recognize the scale of the growth problem in Africa. Africa's total GDP is currently about US \$350 billion per year. This is not large by Western standards (e.g. it is little more than what the OECD countries spend on agricultural support policies for their farmers), but it is enough to provide 700 million Africans with an average annual income of US \$500 each. To make a serious dent in Africa's poverty it is necessary to think about doubling or trebling this income while also achieving a better distribution. Even a doubling would require another US \$350 billion per year. To achieve this will require growth in a large sector like agriculture, which accounts for about 30 percent of gross domestic product (GDP) for Africa as a whole, and even larger shares in more than two-thirds of African countries.

But if agriculture is to provide the kinds of income increase needed, then it will have to derive from broad sector-wide growth, not just fast growth in small niches like high value agricultural exports. Those are useful additions but they are still measured in tens of millions of dollars, not the tens of billions required.

* Visiting professor in the Center for Environmental Policy, Imperial College London, Wye Campus

Table 1: Summary of the Debate about the Role of Agriculture in Africa Today

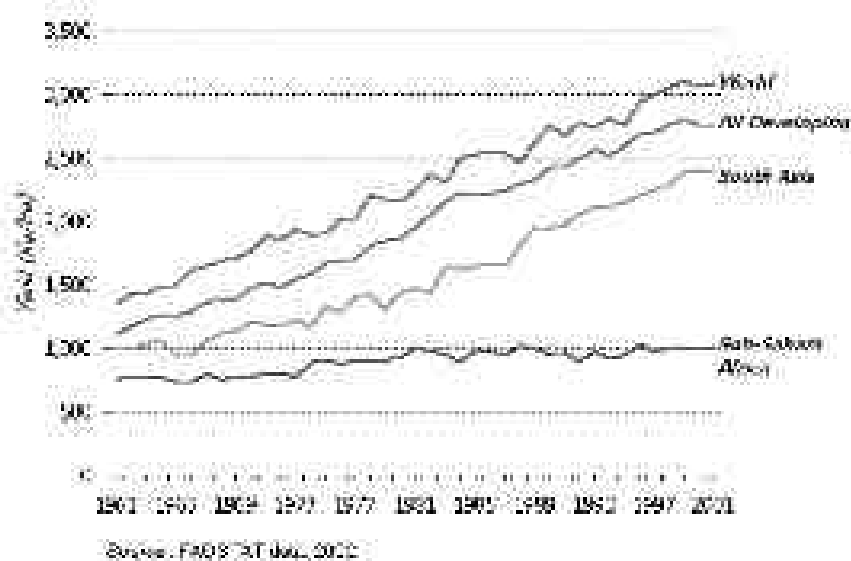
Type of Argument	Case for Agriculture	Case against Agriculture
<i>Scale</i>	Has sufficient scale to make the needed impact on aggregate growth rates. But scale requires growth in food staples.	Too much of a bad thing given low prices and poor past performance
<i>Catch up potential</i>	Considerable catch up potential given current low levels of factor productivity. Africa badly needs to invest to regain competitiveness, just as other countries already have.	Too late and too expensive for most cash strapped countries
<i>Growth linkages</i>	Agriculture has powerful growth linkage effects in early stages of development, including providing a growing demand for nascent industries.	Not so important in today's liberalized economies, and anyway, employment intensive manufacturing and services create comparable linkages
<i>Alternatives to agriculture</i>	Better than the alternatives (manufacturing and services) given their smaller base, poor past performance, and highly competitive world markets (e.g. China and India).	Optimistic views about potential for a) manufacturing exports in coastal countries and b) better use of export revenues in oil and mineral rich countries.
<i>Poverty impact</i>	Agricultural growth can be powerfully pro-poor especially if the strategy builds on small farms and food staples (SFFS)	No future for small farms and food staples production given low prices, small farm sizes, and more integrated and competitive markets

Agricultural skeptics argue that having a big “bad thing” is not good, and one should focus on trying to move away from it as quickly as possible. They see agriculture as a sunset industry for Africa given world food surpluses and the low productivity and poor past performance of the sector. This begs the question of what the alternative “big thing” could be, a point taken up under issue 4 below.

2.2 Catch up Potential

Gross neglect of agricultural investment in Africa compared to the rest of the world has led to a situation in which cereal yields and per capita food production are now much lower in Africa, and the gap is widening (Figure 1). Agricultural proponents see plenty of opportunities for raising yields through technological change. Some of the needed technologies are already available on the shelf and it is merely a problem of dissemination. But additional research is also needed to develop farming practices that are more appropriate to the economic conditions of post-reform Africa in which many farmers can no longer afford to buy fertilizers and soils are widely degraded. Skeptics argue that revitalizing the sector will not be easy: Africa still has much lower densities of rural infrastructure than India had even in the 1950s (Spencer, 1994). Africa also has weak institutions for rural development; there is limited irrigation potential and most agriculture must be conducted on depleted soils and under difficult climatic conditions; and world agricultural prices are at historic lows.

Figure 1: Global Trends in Cereal Yields by Region (1961-2003)



2.3 Growth Linkages

Agricultural proponents argue that technology driven agricultural growth has powerful growth linkage effects for national economic growth (Johnston and Mellor, 1961; Mellor, 1976). These linkages are especially powerful during the early stages of development when agriculture is still the dominant sector. The key linkages arise because agriculture:

- generates more food and raw materials at lower prices, lowering wages and making industry more competitive;
- frees up foreign exchange for the importation of strategic industrial and capital goods;

- provides growing amounts of capital and labor for industrial development; and by increasing farm and rural incomes, provides a growing domestic market for nascent national industries.

Skeptics argue that while these linkages proved very powerful during the Green Revolution in Asia, they may be much weaker today in Africa's small and more open economies. For example, food prices should be determined more by border prices than domestic agricultural production when imports can enter freely, and industry can sell directly into foreign markets without having to wait for growth in domestic demand.

Counter arguments are based on the observation that while Africans living in coastal cities can access cheap food imports, most Africans live in areas where transport costs add significantly to the cost and availability of imported foods. In this context, increases in local food production can still be enormously helpful to the poor. Also, it is very difficult to launch whole new industries in today's highly competitive global markets, especially in countries that have only a small and inefficient industrial base.

2.4 Alternatives to Agriculture

Skeptics who argue against agriculture must offer viable alternative engines of growth for African countries. Apart from the few African countries endowed with significant mineral or oil resources, they look to accelerated growth in industry and services.

Industry averages 25 per cent or less of GDP in most African countries (e.g. 11 per cent in Ethiopia) and is a much smaller sector than agriculture. Because it is smaller then to get the same scale of impact as agriculture, the industrial sector would have to grow faster. In reality, the industrial sector has grown much more slowly than agriculture (1.2 per cent per annum since 1980 compared to 2.5 per cent for agriculture – World Bank Indicators). Moreover, less than half of the so called industrial sector is actually manufacturing (including food processing), while the rest comprises oil and minerals, construction and urban utilities. As with the recent growth in high value agricultural exports, recent successes with some manufacturing and food processing industries are not nearly enough to make a significant difference to aggregate income, employment and poverty in the next decade or two. Nor is it clear how Africa is supposed to launch a major industrial revolution based on its current small and largely inefficient industrial base, particularly at a time when countries like China and India are proving highly competitive in world markets for labor intensive manufactured products. Exceptions do of course arise (e.g. RSA and Kenya), but most African countries have yet to successfully break into manufacturing export markets.

In Asia, industry initially grew with domestic demand and was partially protected from import competition. Once it was established and had achieved the scale and efficiency needed to successfully compete, only then were its markets fully liberalized. But growth in domestic demand was driven initially by rapid agri-

cultural growth. This has not yet happened in most of Africa. Without agricultural growth, fledgling industries will have to compete in world markets from their very inception, a daunting task that few countries (mostly island states) have ever achieved.

Services are the other big sector (about 45 per cent of GDP; 47 per cent in Ethiopia) and are growing at about same rate as agriculture (2.5 per cent per year since 1980). Because it is a big and growing sector some now see this as an alternative lead growth sector to agriculture.

The problem with the service sector is that it largely depends on the domestic market for its demand and, unlike Asia, the service sector in Africa is rarely driven by rising per capita incomes. With stagnant per capita incomes in many countries, many service sector jobs are low productivity activities that simply supplement rather than replace existing incomes (what Michael Lipton might call 'jobs of distress'). The better jobs are often driven by government employment (including the military) that contributes little to economic growth, and by services directly linked to foreign aid (e.g. servicing the consumption needs of the expatriate community and their project activities). Unless one envisages very rapid growth in service sector exports (e.g. IT or tourism) then the prospects for the service sector ultimately depend on an alternative engine of growth to increase the average purchasing power of domestic consumers. This brings us back to the need for agricultural or industrial growth.

In reality, neither agriculture nor industry can do the job on its own and most countries will have to walk on both legs. This in turn will generate knock on benefits through the service sector. Even countries well endowed with oil and minerals cannot generate much employment growth unless they also invest in agricultural and manufacturing development. Since a lot of industry is agriculture based, a balanced growth strategy that builds on agriculture-manufacturing linkages makes a lot of sense. Country economic modeling work at IFPRI supports this conclusion (Diao et al., 2006). However, one of the constraints to this strategy is the restrictive import constraints imposed on processed agricultural products by most OECD countries.

2.5 Poverty Impact

Proponents of agriculture stress the sector's potential to slash poverty rates, as demonstrated during the Green Revolution in Asia. But agricultural growth in Africa is not necessarily pro-poor. Growth driven by high value exports often is not. Not only is the amount of additional agricultural income from this sub-sector too small to make much of a difference for most of the poor, but the main beneficiaries are commercial farms located in areas with good market access (e.g. near cities and even airports).

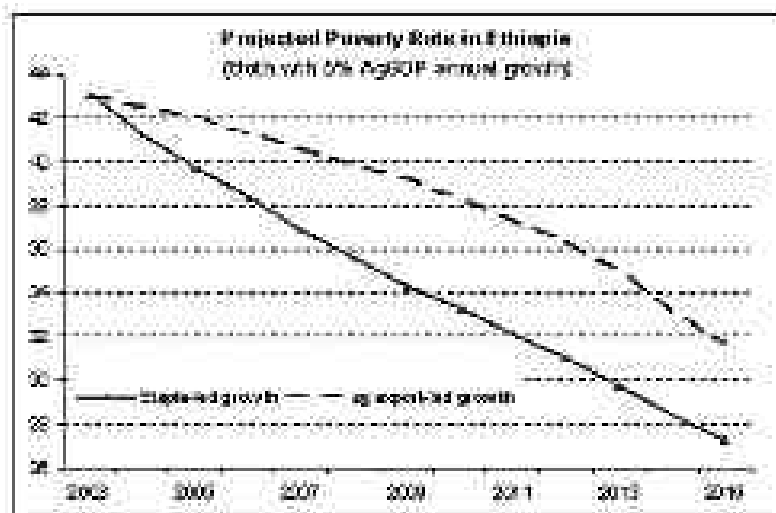
Food staples production is much more pro-poor because they are grown by farmers across Africa, including most small farms and the poor. Small farms account for 70-90 per cent of farms in many African countries and for significant shares of food staples production. Increases in cereal yields, if based on inputs or tech-

nologies that can be widely used by farms of all sizes, can have an enormous impact on poverty¹. Not only does it lead to greater on-farm productivity for many poor farmers, but it brings down food prices for everyone else. As argued above, this price effect may not be very large in urban areas in today's open economies (certainly if the cities are near ports) but for most Africans who live in areas where transport costs add significantly to the cost of imported foods, increases in local food production can still be enormously helpful.

Simulations with economy-wide models of countries like Ethiopia support this argument (Diao et al., 2006). For the same rate of agricultural growth, a much larger reduction in poverty by 2015 is achieved if that growth is driven by food staples rather than high value export crops (Figure 2). And because of its much smaller size, the high value sector has to grow at much faster (mostly infeasible) rates to provide comparable rates of agricultural sector growth.

The same models also show that industrial led growth has a smaller impact on poverty reduction than agricultural growth (Diao et al., 2006). But this is not a new finding².

Figure 2: The choice of sub-sector matters for poverty reduction – Ethiopia



¹ There is a large econometric literature that uses cross-country or time series data to estimate growth-poverty elasticities by sector. These studies generally find high poverty reduction elasticities for agricultural productivity growth, especially in the early stages of development and relative to other sectors. For example, Thirtle et al. (2002) in a cross country study estimate that a one percent increase in crop productivity reduces the number of poor people by 0.72 per cent in Africa and by 0.48 per cent in Asia. In India, Ravallion and Datt (1996) have estimated the elasticity of poverty reduction with respect to agricultural value added per ha at 0.4 per cent in the short run, and 1.9 per cent in the long run, the latter through the indirect effects of lower food prices and higher wages

² For example, see Timmer (1997) and Ravallion and Datt (1999).

3. Emerging Rural Development Priorities for the New Millennium

The debate about the role of agriculture in Africa remains unresolved in many countries and donor agencies as well as within the academic community. As such, we now have two camps pulling in different directions. However, the pro-agriculture lobby seems to be making some progress, and the level of funding for agriculture has at least bottomed out and may actually be increasing again³. But even as the momentum for agriculture is increasing, there is another debate about the relevant strategy for agricultural development. A new donor paradigm seems to have emerged (seemingly as much a European as a new Washington Consensus) that embeds agricultural development within a broader approach to rural development, with enhanced links to the urban sector. This new paradigm focuses on market and private sector-led agricultural growth; rural income diversification out of agriculture, especially for small farmers and the rural poor; increased investments in human capital and safety nets to provide relief during crises like droughts and to help manage the transition towards more urban

Table 2: Changing priorities for the rural sector

Theme	What's in	What's out
<i>1. High value agriculture or food staples?</i>	Small farms and food staples production (SFFS)	High value products (especially for export), commercial farming, agro-processing and integrated market chains – all privately led
<i>2. Is there a future for small farms?</i>	Small farms, especially for food staples	Farm consolidation and larger commercial farms
<i>3. Exit strategies or more investment in small farms?</i>	Big public investments in rural infrastructure	Farm exit strategies through growth in urbanization, migration and the manufacturing and services sectors.
<i>4. Trade liberalization for whom?</i>	Liberalization of OECD agricultural policies (including protection for high value and processed products)	Trade liberalization (including agriculture) for developing countries
<i>5. Safety nets or more investment in pro-poor growth?</i>	Broad based and productivity enhancing investments in SFFS	Targeted interventions for the rural poor, built around sustainable livelihood strategies, community-led development, and consumption subsidies (e.g., food aid).
<i>6. Does good governance have to mean an emasculated public sector?</i>	Production subsidies and direct public sector involvement in agricultural marketing and provision of agricultural credit and input supplies.	Good governance, especially more democratic decisions for public choice, and enhanced roles for the private sector, civil society and local governments

³ African leaders committed in the Maputo 2003 Declaration of the Heads of States of the African Union (the Maputo Declaration) to allocate up to 10 per cent of their fiscal budgets to agriculture by 2008.

societies; and improved governance arrangements including a smaller role for the public sector and new public-private partnerships. I review this new paradigm below and compare it to the agricultural development priorities of the past. The arguments are summarized around six questions in table 2.

3.1 High value agriculture or food staples?

With historically low world prices for food staples and rapid expansion in international agricultural trade, the new paradigm sees the best opportunities for African farmers in high-value commodities such as fruits, flowers, vegetables, and livestock. In many successfully growing Asian and Latin American countries, domestic demand for these products is growing rapidly, providing ready market outlets for increased domestic production⁴. In contrast, growth in domestic demand is much weaker in Africa, primarily because of low and stagnant per capita incomes. The best high-value market opportunities are seen in export markets to richer countries. Many African countries are being encouraged to aggressively expand into high-value, nontraditional exports, as well as to improve the quality of their traditional tree crop exports.

The high value sector is particularly attractive to some donor agencies because it fits with their market led philosophy in which the private sector provides the leadership and much of the required investment, and the public sector is asked mostly to keep out of the way. While not wishing to diminish some of the real opportunities that exist in high value markets, it does seem that some donors are demonstrating the kinds of “irrational exuberance” that once prevailed for tree crop exports in the 1970s. A quick look at the price data for tree crops over recent decades should provide ample warning of the dangers that may lie ahead.

Alternative market opportunities for African agriculture are also more nuanced (Diao and Hazell, 2004) than portrayed by the advocates of high value exports. While opportunities exist for improving traditional exports through better-quality and niche markets and while nontraditional exports are growing quite fast, albeit from a small base, the greatest market potential for most African farmers still lies in domestic and regional markets for food staples (cereals, roots and tubers, and traditional livestock products). For Africa as a whole, the consumption of these foods accounts for about 70 percent of agricultural output (Table 3) and is projected to double by 2020 (Rosegrant et al., 2005). This will add another US \$50 billion per year to demand in 1996-2000 prices, a growth of approximately 4 per cent growth per year. Moreover, with increasing commercialization and urbanization, much of this additional demand will translate into market transactions and not just additional on-farm consumption. There are no other markets that offer this kind of growth potential, and unlike many higher value products, food staples also have relatively low credence attributes making them much easier products for small farmers to sell in today’s markets. If African far-

⁴ In India, for example, high-value products now account for just over half of the total value of agricultural output, and they are growing at about 5 to 6 percent per year (author’s own calculations). Interestingly, only about 2 percent of nontraditional high-value products are exported, and growth is being driven almost entirely by the domestic market.

mers could capture a decent share of this growing market, there would be plenty of scope for them to increase their food staples production by 3-4 per cent per year. The trick is not to grow faster than 4 per cent unless one can sell to neighboring countries, and there is scope for that if some of the intra-regional trading barriers were removed (Diao et al., 2004).

Table 3: Size of Africa's agricultural trade and markets

Market	Value (\$ billion)
Traditional exports to non-SubSaharan Africa	8.6
Nontraditional exports to non-SubSaharan Africa	6.0
Other exports to non-SubSaharan Africa	1.9
Intra-SubSaharan Africa trade	1.9
Domestic markets for food staples	50.0

Note: All figures are averages for 1996–2000, except the data for domestic which are 1997 figures.

Source: Diao and Hazell (2004)

Simulations with economy-wide models at IFPRI also show that food staples offer more realistic pathways for achieving growth and poverty reduction within the time frame of the MDGs (Hazell and Diao, 2005). For example, Figure 1 shows that the fastest way for Ethiopia (a poor and food deficit country) to reduce poverty by 2015 is through productivity growth for food staples. This strategy is not only more feasible for achieving a sustained 5 per cent agricultural growth rate, but also outperforms a strategy built around increasing production of high value products (called non-trationals in Figure 1). The results show that not only is a 5 to 6 percent agricultural growth rate driven by food staples feasible in terms of market absorption in both countries, but it has a superior poverty-reducing impact. That is because productivity enhancements for staple crops (e.g., through technological change) benefit farms throughout both countries, reaching many of the smallest farms and the poorest areas. Staple crops also form the dominant share of household food expenditure, so productivity increases that lead to lower prices have powerful benefits for the urban poor, too. By contrast, growth in non-traditional high-value export crops only reaches farmers in the better-connected areas and has little impact on the food costs of the poor.

3.2 Is there a future for small farms?

Most small farms are not seen as viable in the new paradigm and hence are not prioritized for future agricultural investment. There are at least three reasons behind this position. First, agricultural marketing chains are changing dramatically in ways that make it harder for small farms to compete. Small farmers are increasingly being asked to compete in markets that are much more demanding in terms of quality and food safety, more concentrated and integrated, and much more open

to international competition. Supermarkets, for example, are playing an increasingly dominant role in controlling access to retail markets (Reardon et al., 2003), and direct links to exporters are often essential for accessing high-value export markets. As small farms struggle to diversify into higher-value products, they must increasingly meet the requirements of such demanding markets, both at home and overseas. These changes offer new opportunities to small farmers who can successfully access and compete in the transformed markets, but are a direct threat to the many others.

Second, at the same time that markets have become more unforgiving, structural adjustment and privatization programs have left many small farmers without adequate access to key inputs and services, including farm credit. State agencies no longer provide many direct marketing and service functions to small farms, leaving a vacuum that the private sector has yet to fill in many countries (Kherallah et al., 2002). The removal of subsidies has also made some key inputs, such as fertilizer, prohibitively expensive for many small farmers, and the removal of price stabilization programs has exposed many farmers to greater downside price risks. These problems are especially difficult for small farms living in more remote regions with poor infrastructure and market access.

Third, given that about 80 per cent of Africa's farms are smaller than 2 hectares and are diminishing in size over time (Nakayets, 2005), there is concern that most farmers cannot get rich growing food staples.

Within this context, smallholders are seen as not having a viable future in farming and hence should not be prioritized in future agricultural development strategies. Farm consolidation is also increasingly recommended, although few advocates seem to have coherent exit strategies for the large numbers of small farms who must seemingly be displaced.

Yet small farms offer important economic and social advantages in low-income countries:

- They are more efficient producers in labor-surplus economies (because family workers are less costly and more motivated than hired workers and small farms are more likely to use labor rather than capital-intensive technologies).
- They help contain poverty by providing an affordable home platform from which poor households can experiment with ways to improve their livelihoods.
- They help prevent premature urban migration and the explosive growth of large cities.
- They also ensure a degree of food security in rural areas where high transport and marketing costs can drive up food prices, while at the national level their higher land productivity has the potential to help poor countries attain greater self-sufficiency in staples such as cereals, tubers, and even livestock.

Many such advantages slowly disappear as countries develop and labor becomes scarcer relative to land and capital, leading to a natural transition toward larger farms and an exodus of small farm workers to towns and nonfarm jobs. But that transition does not normally begin until countries have grown out of low-income

status, and it typically takes several generations to unfold. A common misdiagnosis stems from overlooking this broader economic context for determining the economics of farm size (Hazell, 2004).

For most low-income countries, the problem is not that small farms are inherently unviable in today's marketplace, but that they face an increasingly tilted playing field that, if left unchecked, could lead to their premature demise. Key requirements for ensuring their survival will be improving infrastructure and education, ensuring that small farms get the technologies and key inputs they need, and promoting producer marketing organizations that can link small farmers to the new market chains. Small farmers cannot do all these things on their own, and the public, private, and nongovernmental organization sectors all have important roles to play.

3.3 Exit strategies or more investment in small farms?

Africa has experienced rapid urbanization in recent years, a trend that seems likely to continue if not increase. This is accepted as desirable in the new paradigm, leading to greater emphasis on helping rural families diversify their livelihoods away from agriculture rather than on creating new agricultural opportunities. Supporting this approach, Maxwell et al. (2001) and Ellis and Harris (2004) argue that agriculture has already become a relatively small productive sector in many rural regions and most rural households already have diverse and geographically dispersed portfolios of income sources. They question whether agriculture can any longer serve as a relevant engine of rural growth and suggest instead that poverty reduction can better be achieved by taking a more holistic household livelihoods approach. Ellis and Harris (2004) go further and suggest that public investment should be geared towards improving the ease with which migrants can access viable livelihoods in urban areas where growth is assumed to be taking place.

Rural income diversification has been a reality in Africa for decades. In fact, the first large-scale rural household survey in Africa conducted in 1974-75 in Kenya found that smallholders derived at least half of their incomes from sources other than from the farming of their own lands (Kenya, 1977). A similar situation is also reported by Reardon et al. (1994) from a series of studies in eight West African countries, and a review of 35 African case studies by Barrett and Reardon (2000) revealed that rural households derived a median of 43 percent of their incomes from the non-farm economy. Even in many Asian countries, farmers were highly diversified before the Green Revolution (see evidence from India in Ravallion and Datt, 1996). If most African farmers have been unable to find pathways out of poverty despite income diversification strategies over many decades, then it is unclear why such a strategy should work better today, particularly in countries where the nonagricultural sectors are not thriving either.

Diversification into non-farm activities is not an unequivocally positive phenomenon. On the one hand, diversification may reflect a successful structural transformation in which rural workers are gradually absorbed into more lucrative non-farm jobs, such as teaching, milling, or welding. Entry into these formal jobs often requires some capital, qualifications, and/or possibly social contacts (Start, 2001).

On the other hand, in Africa, diversification into the non-farm economy is often driven by growing land scarcity, declining wages, and poor agricultural growth (Haggblade et al., 2002; Start, 2001). Migration driven by a stagnant agricultural and rural environment or due to growth in low productivity urban sector activity, such as public service employment, is often a dead end, which Lipton characterizes as “the migration of despair.” In this case, migration “depresses wage rates, denudes rural areas of innovators, and hence, while it may briefly relieve extreme need, seldom cuts chronic poverty.” (Lipton, 2004, p. 7)

History shows that countries invariably diversify as they develop, and that involves a decline of agriculture relative to the rest of the economy and the movement of workers out of agriculture and into other occupations. But diversification is demand driven and follows rising per capita incomes; it is not a primary engine of growth in its own right as the new paradigm suggests. The reality is that African countries need a major engine of growth to drive diversification, and as seen above, agricultural growth is the only engine available of sufficient scale for most African countries.

3.4 Trade liberalization for whom?

The new paradigm asks that African countries continue along their path of policy reforms, including further opening of their agricultural markets to international trade. At the same time, progress towards the reciprocal liberalization of the OECD’s own agricultural markets has been stymied by the opposition of a few of its members.

Protection of domestic agricultural markets in OECD countries together with export subsidies, sometimes in the form of ill-designed food aid, have reduced prices for many African farmers and rendered their products uncompetitive. Liberalization of agricultural markets in OECD countries, including for processed agricultural products, would create new market opportunities for many developing countries, including African countries. If matched by domestic reforms and investments in their own rural sector, this could translate into significant long term agricultural growth among the latter countries.

Various studies suggest that if the OECD countries as a whole were to liberalize their agricultural markets, world prices for major agricultural commodities would increase. This could induce new investment and technological change that would lead to even larger long term benefits, though measurement of these additional gains is rarely attempted. But the gains would not necessarily benefit all of the poorest countries. Some would lose concessionary access to US or European export markets (e.g. sugar and banana producers in Africa and the Caribbean) and consumers would lose from higher food prices. Past agricultural neglect also means that few African countries are well positioned to quickly expand their production to seize new market opportunities, and they may lose out to other countries such as Brazil, Argentina and Eastern Europe that are much better positioned to compete. But this is not an argument for delaying further OECD agricultural policy reforms but rather for the urgent need to accelerate investment in African

agriculture to improve its competitive position in world markets. Clearly, however, export subsidies such as for cotton and for sugar in high income countries undermine the development opportunities of large numbers of small farmers in Africa.

Africa also needs better access to OECD markets for labor intensive manufactured goods, primary agricultural goods (e.g. sugar and cotton), and processed agricultural products.

3.5 Safety nets or more investment in pro-poor growth?

The growth priorities of the new paradigm imply considerable human and social adjustment as many small farmers are encouraged to exit agriculture, and urban growth and more rapid rural-urban migration are promoted. The new paradigm therefore also calls for substantial new investment in human capital and rural safety net programs to assist in the transition. Already these investments are growing rapidly, and are buttressed by the increasing demands for relief in crisis years, needs that are related to under-investment in increasing the productivity of food staples on small farms. There is a renewed emphasis on “productive” safety nets, built around strengthening livelihoods and community-led development, but income transfers in the form of food, education and health subsidies are also on the increase. There have been real advances in recent years in targeting and delivering assistance more effectively, often by involving local communities in the design and implementation of targeted programs, which leads to programs that are primarily demand-driven and hence reflect local needs and constraints.

But safety net programs in poor countries cannot realistically be seen as a substitute for policy support for small farm agricultural development. While this is conceivably a viable strategy in countries with important sources of mineral or manufacturing income (e.g. Mexico or Indonesia) that can pay for extensive safety net programs, most African countries cannot afford large welfare programs. In fact they lead to further neglect of agricultural development. For example, donor funds are now so heavily tied to relief and safety programs in some of Africa’s poorest countries (e.g. Ethiopia) that few resources are left to help these countries grow out of their poverty. This is an unsustainable situation and one that can only worsen as rural populations grow and donors eventually seek to stabilize or cut back on their emergency assistance. Unfortunately, finding a more realistic balance between longer term poverty reducing growth and short term social and environmental goals is complicated by the current fixation on the MDGs, such as halving poverty by 2015. As the year 2015 approaches, interventions that quickly cut poverty will take increasing priority over growth, even if they cannot be sustained in the longer term (Bruce Gardner calls this the “mischief” of the MDGs!).

3.6 Does good governance have to mean an emasculated public sector?

The new paradigm calls for improved governance, especially a shift to more democratic systems for public choice at national, regional and local levels, and enhanced roles for the private sector, civil society and local governments. It is now

fashionable to think that the private sector and producer organizations can perform most market chain functions in agriculture and that the government's role should be limited to creating an enabling environment, such as setting and regulating grades and standards, ensuring food safety, and registering and enforcing contracts. This contrasts sharply with the key role that the public sector played in food staple market chains during the early years of the Green Revolution in Asia.

There the public sector went far beyond a facilitating role and provided most key services itself, including research and development, extension, improved seeds, fertilizer, credit, storage, and marketing. Moreover, governments intervened to stabilize prices for producers and consumers alike, and provided subsidies for many key inputs to encourage their uptake. Recent work at IFPRI on India shows these interventions played a key role in launching the Green Revolution (Dorward et al., 2004, ch. 3). They also helped ensure that small farmers were able to participate, and that contributed greatly to the levels of poverty reduction achieved. The IFPRI calculations show that most of these policies and interventions had favorable benefit-cost ratios in the early years, but the ratios worsened over time once the interventions had served their primary purposes. Unfortunately, once institutionalized, removing the interventions has proved very difficult, and as input use increased the costs to the governments soared. Today, for example, India spends about US \$10 billion per year on subsidies that are basically unproductive.

Focused on these post-Green Revolution problems, the new paradigm asks that Africa launch its own agricultural revolution without these kinds of public interventions. Africa is being asked to rely almost exclusively on the private sector and producer organizations. Is the international development community asking for the impossible? Is it drawing the right lessons from Asia?

Hardly any credible evidence exists to suggest that the private sector can take the lead in market chains for staple foods during the early stages of agricultural development. As farmers struggle with low productivity and high subsistence needs, low input use, low incomes, poor infrastructure, high risks, and the like, the amount of profit to be made in market chains for food staples remains low and unattractive for much private investment. There is also a growing body of studies showing that important institutional and market failures are to be expected at that level of development. It is a singular fact that no Asian country developed its food staple agriculture from a subsistence to a market orientation without heavy public intervention in the market chains.

This is not to advocate a return to costly and inefficient parastatals or to hefty and poorly targeted subsidies of Africa's past. Nor is it an argument against a strong role for the private sector where this can work, as in many high-value market chains. But what is really needed is a much better understanding of those aspects of public intervention that really worked in Asia and why (e.g., Dorward, Kydd, and Poulton, 1998; Dorward et al., 2004). Then we can draw the right lessons for developing new institutional innovations to bring those essential ingredients to Africa.

4. Will the New Strategy Work?

In essence, the core content of past agricultural development strategies (productivity enhancement of food staples on large numbers of small farms) – that traces its heritage to the green revolution – has been gutted from the new paradigm. There is simply no priority today for the kinds of investments that promote broad based growth in the small farm, food staples (SFFS) sector.

Is this new strategy likely to work any better than previous ones? Does the economics add up? Are governments likely to support the key priorities? Will the private sector be allowed to play its role? Will corruption and poor governance permit successful implementation?

One of the distressing things about our current state of knowledge is that we really cannot answer many of these questions with any certainty. And there is not much of a sustained track record in any one African country to give much confidence that the new strategy will work. The easiest questions relate to the economic issues; will the strategy add up and deliver on its goals? Based on recent country economy-wide modeling work at IFPRI, I think one can lay down a few preconditions for success. The strategy is most likely to work in countries that have:

- Sufficient scale in high value commercial agriculture to make a difference to aggregate growth rates
- Sizeable and dynamic alternative engines of growth (oil, manufacturing, tourism, IT, etc.)
- A strong private sector
- Market access, especially to OECD countries and perhaps large South countries like China and India.
- Reasonable national governance and stability and political commitment.
- Not too large a traditional small farm – food staples sector that would require a hugely expensive set of targeted assistance programs during the transition
- Absence of a food constraint (world prices remain low and adequate foreign exchange can be earned to pay for imports).

On these grounds, the strategy would seem to be most relevant for many Asian and LAC countries today where agriculture is already a small share of national GDP. Perhaps even relevant for already diversified and/or mineral rich countries in Africa like South Africa, Botswana, Kenya and Nigeria. However, the high employment shares in agriculture in most of these countries still present a challenge if small farm food staples, SFFS, sector is neglected.

The relevance of the approach to most of Africa's poor and agriculture dependent countries seems moot. Even if commercial agriculture and manufacturers in these countries can rise to compete in world markets, we are still only likely to see pockets of growth emerging that together are on far too small a scale for the first decade or so to make much difference to national growth rates and non-farm employment. Such growth will benefit relatively few people, leaving most of the

population behind in a classic dualistic pattern with either worsening poverty or burgeoning costs of targeted assistance to the rural poor. There is also the possibility of emerging food constraint. With projected demand growth of about 4 per cent per year for Africa, then neglect of the SFFS sector will lead to growth in imports and many countries may not be able to afford the needed foreign exchange.

It seems obvious that the SFFS sector cannot be neglected in most African countries. It is the only sector that can ensure that growth is broad based and that quickly slash poverty. On the other hand, given market constraints and low prices, there is no longer much basis for thinking that a large scale SFFA approach could do the job on its own. The market will only grow at about 4 per cent per year. What is needed is a more balanced strategy that integrates a suitably ambitious SFFS component into the new agenda, and with greater emphasis on agro-processing as a lead manufacturing sector. Such a strategy could generate powerful synergies between sectors, including between food staples, high value products, exports and agro-industry, accelerating growth rates and poverty reduction. Given the rather profound market failures that characterize the SFFS sector in the early stages of development, this would require greater commitment than the new agenda currently allows to public investment in rural areas and a greater role for government in food staple markets and agricultural services. In many ways, CAADP⁵ represents the more balanced strategy that is needed, but the level of government and donor financial commitment for its SFFS component has yet to be seen.

But what about the non-economy questions, governance and political processes? Are there also clear pre-conditions for success? Many today seem to think democracy is a pre-condition, but that seems far too demanding a requirement. In some quarters, there is even an effective triage against poorly governed countries (e.g. the Millennium Challenge Fund of the US). But good governance seems to evolve with economic progress and that suggests more emphasis should be put on small but targeted and strategic improvements in governance and enabling conditions rather than on wholesale governance reform. These issues badly need additional policy research.

⁵ CAADP is NEPAD's Comprehensive African Agricultural Development Program.

5. Conclusions

Agriculture's role in the economic development of a country changes as the transformation proceeds. In the early stages, agricultural growth, particularly led by food staples and small farms, is a major engine of national economic growth and can play a very significant role in reducing poverty. As a country develops the agricultural sector begins to take a secondary role as an engine of growth, and the composition of its output and farm size structure changes. Labor migrates from agriculture, farms get larger, and higher-value foods become more important in the national diet and in production. Globalization and trade liberalization have weakened these traditional patterns of development to some extent, but there is little theory or evidence to suggest that today's low-income countries, especially in Africa, can bypass the need for an agricultural revolution to successfully launch their economic transformations.

Within this context, small farm development offers an efficient and pro-poor option for agricultural development during the early stages of the economic transformation. However, small farms are seriously challenged today in ways that make their future precarious. Marketing chains are changing and are becoming more integrated and more demanding of quality and food safety. This is creating new opportunities for higher-value production for farmers who can compete and link to such markets, but for many other small farms the risk is that they will simply be left behind.

Small farmers also face unfair competition from rich-country farmers in many of their export and domestic markets, and they no longer have adequate support in terms of basic services and farm inputs. And the spread of HIV/AIDS is further eroding the number of productive farm-family workers and leaving many children as orphans with limited knowledge about how to farm. Left to themselves, these forces will curtail opportunities for small farms, overly favor large farms, and lead to a premature and rapid exit of many small farms.

If most small farmers are to have a viable future, there is need for a concerted effort by governments, nongovernmental organizations, and the private sector to create a more equitable and enabling economic environment for their development. This must include assistance in forming effective marketing organizations, targeted agricultural research and extension, revamping financial systems to meet small farm credit needs, improved risk management policies, tenure security and efficient land markets, and where all else fails, targeted safety net programs. In addition, the public sector needs to invest in the provision of basic infrastructure, health, education, and other human capital to improve market access and to increase the range of nonfarm opportunities available to small farm households, including permanent migration to urban areas. These interventions are possible and could unleash significant benefits in the form of pro-poor agricultural growth. The associated public investments could also more than pay for themselves in terms of their economic and social return.

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6. Discussion on the role of agriculture in pro-poor growth in Sub-Saharan Africa

*Agnes Andersson**

6.1 Alexander Sarris*

Alexander Sarris began his discussion by agreeing with the view promoted both by Peter Hazell and Carin Jämtin in her keynote address, that growth within the agricultural sector should be employment promoting. The focus of Sarris discussion came to be the dynamics of economic growth and their connections with poverty reduction from an agricultural vantage point. Earlier emphasis on production linkages of economic growth in general, argued Sarris, has of late been replaced by a focus on consumption linkages which provide a very clear role for agriculture since consumption linkages if directed towards areas of domestic, labour-intensive production can engender economic growth.

However, for agriculture to provide this type of growth-enhancing and poverty-reducing role, Sarris argued, certain conditions need to apply: the agricultural sector needs to constitute a large share of the domestic economy, equitable land distribution needs to characterise access to land resources, marginal expenditure shares must be large for labour-intensive non-tradeables, excess (underutilised) supply of local labour resources must exist, complementary improvements of local components of human capital must be undertaken simultaneously (for instance education and health) and market and infrastructure conditions must be improved, while there needs to be an increased demand for food

Although these conditions currently hold for African agriculture in general Sarris cautioned that:

- *Whereas yields and productivity for the main agricultural products* (historically) have increased in the developed countries, they have increased slower in the least developed countries, and *have stagnated in Africa*. This means that global price declines on these products affect countries that have not improved their productivity, which in turn leads to a marginalization of African agriculture within the world economy.
- *The role of technology needs to be qualified*. Based on micro-data from Tanzania, Sarris noted a simultaneous over-utilisation of labour within agricultural production systems coupled with large inefficiencies in the use of technological farm-inputs, which in turn offer a rather “easy” way of increasing productivity (if used efficiently). In this context, inefficiencies are connected with the key constraint constituted by the unavailability of finance. Hence, although important, technology in itself is not enough to enhance growth within the food sector.
- Sarris also pointed to constraints within the *input-market for food crops* in the post structural adjustment era and the necessity of recreating linkages between out-

* All discussion notes in this volume were compiled by Agnes Andersson, Department of Cultural Geography, Lund University

* Director, Commodities and Trade Division, FAO

put and input markets to engender growth within the food crop sector. Historically such linkages were the basis of colonial marketing boards and co-operatives. The inefficient use of these structures after independence in many African countries has in effect discredited mechanisms for interlinking output and input markets, especially in the structural adjustment era. Sarris identified the emergence of indigenous producer organizations within food crop production as a promising development for enhancing these linkages and suggested that this is an important area for support.

6.2 Round-table discussion

In the general discussion that followed Alexander Sarris response to Hazell's presentation a number of questions were raised.

- *The in-out dichotomy* presented by Hazell was questioned by workshop participants who did not recognise this from their work within donor organizations as some of the topics labelled as "out" were felt to be very much "in". Friis-Hansen in this context argued that although the disinvestment in agriculture pointed to by Hazell's presentation was correct, more recent signs suggest that agriculture is on its way back "in", for instance a World Bank report from last year and DFID reports from last month. General agreement, even within the World Bank that there has been a massive failure of markets over the past decade, and the search for solutions to this situation on the one hand and the development of strategies which seem to work on the other has paved the way for the return of agriculture onto the donor agenda of recent, argued Friis-Hansen. Jämtin agreed with Friis-Hansen that the agricultural pendulum is swinging back a little, and especially with regards to infrastructure, but cautioned that it should not be swinging back all the way – non-reportable sectors are needed as a part of international development assistance as well.
- *The issues of local, domestic and regional politics* were raised by a number of participants. Friis-Hansen considered the more pertinent question to be whether agriculture is back on the agenda among African governments, especially considering that public spending on agriculture has fallen from pre-SAP-levels of 15 per cent to 2-3 per cent today. In this context, he argued, the political question is whether African governments are ready to release the political power of poor farmers? Havnevik in this context also argued that the analysis of dismantled co-operatives (as sources of farm inputs) presented by Sarris needed to be broadened to include the political aspects of their demise. The historical role of co-operatives as centres of alternative power in relation to arenas of state powers, argued Havnevik, underlined the political role of poor farmers that Friis-Hansen referred to earlier in the discussion. However, at the regional level, argued Mkandawire, there is currently resurgence in political commitment to agriculture through the NEPADs Comprehensive Africa Agricultural Development Program, CAADP.

- In addition, the *constraints to African agriculture outside the domestic level* were highlighted; For instance, the support of OECD-countries to its farmers is, suggested Havnevik, an area, that needs more attention. Nonetheless, argued for instance Sarris, the main focus *must be the domestic market* where margins between central and remote areas may be as high as 150-200 percent, compared with tariffs of 10-15 percent. In this context, Hazell suggested that the main problem is one of distribution. Although urban populations on the coast can access imported food cheaply, food in the African interior is much more expensive and a fundamental strategy for pro-poor growth of agriculture needs to focus on productivity growth in these areas.
- *The multiple roles of agriculture in terms of identity and belonging* were raised, also in the context of the developed world: Jämtin for instance argued that the question of identity needs to be tackled both within the EU and globally. Subsidies to agriculture within the EU are difficult to change since they are connected not only to production, but are also a question of identity.
- Likewise, the issue of *a broadened perception of the targeted sector* was discussed. Views were raised as to the importance of encompassing the entire small farm sector, which today is the focus of many governments and donors. Heinemann cautioned that moving from a small farm sector to a food sector risks becoming an abstraction since the agricultural sector is very complex and that the central point must be the small scale farmer who may be involved in many different kinds of agricultural production. Hazell, however, in response argued that market failure within the food sector involves a much bigger cross-cutting set of issues with respect to markets and infrastructure than is the case for small scale agriculture in general. Market and input-sources need to work, to ensure distribution of food.
- Lastly, *the role of public intervention*; The issue of failed public interventions post-independence was raised, but nonetheless several participants pointed to the need for public intervention in the areas of physical and market infrastructure. Sarris, for instance remarked on the externalities involved in providing roads and market infrastructure and on the role for public intervention in addressing these externalities. He saw this as one main issue to resolve if the distributional capacities of markets in remote areas were to improve.

An Agricultural Research Perspective on poverty, innovation policies and agricultural development in sub-Saharan Africa

Monty Jones *

1. The agricultural development challenge

The African agricultural research community is indicted for not being able to change the productivity of African agricultural production systems despite huge investments of time and money. In view of the depth of human misery that accompanies agricultural failure there can hardly be a more damning charge.

The natural defence is to point out the successful products of agricultural research and how much worse the situation would be but for those products. There are also many constraints to the uptake of research products that are beyond the reach of conventional agricultural research such as poor governance, the imposition of counter productive policies, insufficient investment in market infrastructure and deficiencies in human capacity due to the brain drain, HIV/AIDS and declining standards of education. However, these problems were shared by other continents that have succeeded where Africa has failed in alleviating poverty and improving food security. This situation demands a new approach that addresses the collective failures of the stakeholders in African agricultural innovation to have sufficient impact.

Africans have first responsibility for their own development but the misery endured by the world's poorest people who live in Africa is not just an African problem. It affects the conscience of humanity as a whole, it threatens the global environment and it impedes world trade and development everywhere. There are technical options that smallholders and pastoralists should be made aware of and given support in adapting and adopting. There are also exciting emerging scientific possibilities for productivity enhancing technical breakthroughs which will be accelerated by the establishment of specialised centres of excellence.

Agricultural research institutions have tended to assume that they understand the farmers' problems and that they can produce technologies that will be readily disseminated by the extension services to eager farmers. However, this pipeline approach is not appropriate to enabling change in the complex and highly diverse smallholder and pastoral production systems of Africa. Technical innovation in African agriculture must be accompanied by institutional change so that the context is right for innovation. All stakeholders, which includes farmers, extension workers, in-input suppliers, trader, processors and policy makers, etc., must be involved in conceiving, developing and validating innovations. That will require human capacity in all subjects at all levels. Urgent action is required to strengthen Africa's capacity.

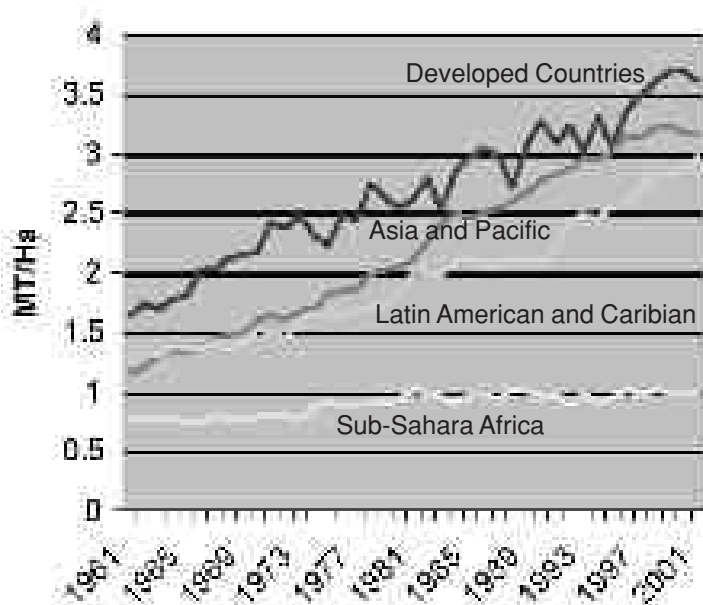
* Executive Secretary, Forum for Agricultural Research in Africa (FARA)

The enormity of the challenge facing African agricultural development demands that the contributions of all stakeholders, African and non-African be harmonised so that they can work in unison and add value to each others efforts. The strengthening of the African Union, NEPAD, the RECs, SROs and FARA has provided structures within which all stakeholders can contribute most effectively to the collective effort to improve the livelihoods of the poorest people on earth.

Africa's average per capita income is the lowest in the world and almost half of the continent's 700 million people live well below the poverty line of one dollar per day. Despite continuing growth in population numbers, during the 80s and 90s the number of extremely poor in sub-Saharan Africa increased from 164 million to 227 million, raising its share of the world's absolute poor, i.e., those without any prospect of getting themselves out of poverty, from 25 to 30 per cent.

With the African population expected to grow at 2.8 per cent per year it will require annual improvements in productivity of at least 5 per cent, twice the level achieved since the 70s, to prevent an increase in the number of Africa's absolute poor. Recognising the importance of agriculture, African Heads of State and Government have, through the New Partnership for Africa's Development (NEPAD), set the target of achieving an agricultural growth rate of 6 per cent per year. This is an enormous challenge because agricultural growth has to date averaged only 2 per cent per year (Cleaver et al., 1994). In contrast to other regions of the world, there have been minimal improvement in African agricultural yields (Figure 3). Indeed cereal yields in sub-Saharan Africa actually fell from 65 per cent of developing countries' average in 1967 to only 43 per cent by 1997. This resulted in falling per capita rural incomes and increasing food insecurity at both national and household levels.

Figure 3: Cereal Yields



With per-capita cereal production in Africa falling to 124 kg, African diets have the lowest calorie content in the world and it is projected that the per-capita calorie availability in sub-Saharan Africa will have increased only marginally by 2020 and that the region's number of malnourished children will continue to increase from 33 to 39 million (World Bank, 2003). In contrast, other developing regions will have reduced the number of malnourished children by more than 30 per cent.

There appears to be no end to such dismal statistics and, to make matters worse, Africa's vulnerability to disaster appears to be worsening geometrically under the impact of cycles of drought and flood that are increasing in frequency and amplitude.

In summary, if the trends witnessed through the last decades of the 20th century are not reversed the world will witness a series of disasters in African that will build up to a human catastrophe of unprecedented proportions.

2. The challenge facing African agricultural development

African leaders have determined that agriculture must be the engine of development because it is the biggest direct employer and contributor to GNP and through the provision of inputs for processing and marketing it also generates significant additional employment and income. In most African countries it is also amongst the top foreign exchange earning industries.

However, the likelihood of achieving NEPAD's goal of 6 per cent annual improvement in agricultural productivity by 2015 is gainsaid by past trends and the many deeply embedded reasons for the disappointing performance of African agriculture. The cumulative consequence of all the constraining factors is that the majority of African rural households are imprisoned in a poverty trap. They cannot get out of poverty because they do not have the cash surplus required to invest in income enhancing activities. This not only denies them access to income-enhancing technical innovations, it also excludes them from indirect productivity enhancing factors such as health services and education. Nations are also caught in poverty traps when they are too poor to invest in infrastructure, education, health care and other development essentials. The means must be found for African rural households to, not just have increased incomes, but for those increases to be sufficient to provide them with surpluses which they can invest in their own innovation and development (Sachs, 2005).

3. African poverty is a global issue

The state of African agriculture is a global concern because the misery of over 300 million people lies on the conscience of the well-off everywhere and for the practical reason that improving the lives of these people would open up immense opportunities for trade, as witnessed in China. Furthermore, with Africa occupying over 20 per cent of the world's landmass the inability of the stewards of that land to invest in the care of natural resources is a concern for the global environment and the conservation of vital biodiversity.

In an age when there is increasing attention to protecting human rights there is no more urgent cause than protecting the right to an adequate standard of living and freedom from hunger because, as illustrated by Figure 4, these are at the core of all human rights that are universal and interrelated. This makes poverty a human rights issue with massive dimensions and implications for everyone, including those who have responsibility for dealing with the increasing numbers of economic migrants.

The implications of the denial of these rights and their interactions makes agricultural development a humanitarian imperative. Ismail Serageldin, former Chair of the CGIAR, equated this to the nineteenth century drive to abolish the slave trade (Serageldin, 1993). Would the slaves on the plantations have preferred the conditions endured by the poor in Africa today? That is doubtful, yet while Africa and its development partners have the means to abolish poverty it continues to get worse.

4. The possibilities for increasing African agricultural productivity

Improving livelihoods and achieving development will not be possible without yield enhancing technical options because, except in a few areas, it is no longer possible to meet the needs of increasing numbers of people by expanding areas under cultivation and attempting to do so will have serious negative consequences for environmental services such as the provision of fresh water that is an increasingly scarce commodity. There is also virtually no scope for increasing labour inputs because African farmers, especially the women who are responsible for more than their share of farm work in addition to their household functions, are more than fully occupied already. Thus the necessary increases in production must come from the application of new knowledge. Fortunately there are quite a large number of science-based and farmer-derived innovations that with appropriate contextualisation are available for out- and up-scaling as illustrated by the following examples.

4.1 NERICA Rice

In the early 1990s, rice breeders at the Africa Rice Centre (WARDA) developed stable and fertile progenies from crosses between Asian rice, *O. sativa* and African rice, *O. glaberrima*. Morphologically diverse, genetically stable and fully fertile interspecific progenies have since been developed either through refined methods of conventional breeding, or with the use of specifically developed anther culture and double-haploidization methods into New Rice for African (NERICA).

Exploitation of the *Oryza glaberrima* gene pool has increased the scope for the development of low management input plant types because it originates in Africa and is resistant to a number of major African insect pests and diseases, such as the African rice gall midge and rice yellow mottle virus. *Oryza glaberrima* is also very competitive with weeds, the number one constraint to rice production in Africa. Such traits were successfully transferred to the NERICAs.

About 3,000 NERICA lines have been produced so far with characteristics including easy harvesting and threshing, local consumer-acceptable cooking and eating qualities, and better resistance or tolerance to drought and soil acidity. The resistance of NERICA lines to major African endemic insect pests and diseases coupled to rapid early vegetative growth makes them more weed competitive and improves the productivity of scarce labour. NERICA protein content is generally high and the NERICA lines generally grow quicker than most traditional rice varieties. The advantages of NERICAs over traditionally grown varieties are:

- Improved yields per hectare and reduced risk associated with rain-fed rice cropping because of better resistance to abiotic and biotic constraints;
- Enhanced labour productivity through reduced needs for weeding and shorter growth duration; and,
- Enhanced sustainability through durable crop resistance to drought, insect pests and diseases.

NERICAs have shown stable yields under both low and high input conditions. Their higher productivity per surface area will reduce clearing of new land. Their reduced risk will encourage farmers to use more inputs and intensify land use thereby improving the sustainability of rice production systems which will enable them to abandon the practice of shifting cultivation. The adoption of NERICAs is, therefore, a first step towards sustainable intensification of Africa's fragile uplands. This will be reinforced by integrating NERICAs into the farmers' existing varietal portfolios underwritten by complementary technologies, sound natural resource management practices and improved rice marketing and distribution systems.

Currently, NERICA has been successfully disseminated in West Africa in Guinea, Côte d'Ivoire, Sierra Leone and Togo. In 2002, NERICAs enabled Guinea to produce an additional 150,000 metric tons of rice which substituted for imports that would have cost approximately US\$13 million.

multiple shoots' formation and finally rooting induction. This technique induces vigour, commonly referred to as a "hormonal kick" that brings the parent material to a juvenile stage, causing remarkable physiological changes that influence the agronomic characteristics of the emerging plant. These characteristics are consistent with other crops such as sugarcane, pyrethrum, trees and flowers where TC techniques have been applied. These physiological adaptations dilute down in subsequent generations and are not heritable genetic changes so the technology must be sustained.

The performances of TC varieties in demonstration trials has been excellent with, small-scale farmers harvesting bananas with bunch weights averaging more than 40kg compared to the usual average of 15-30 kg. An independent socio-economic impact study demonstrated that the average per acre incomes for small, medium, and large-scale farms rose by 156, 145, and 106 per cent respectively which increased returns to labour. This demonstrated that small-scale farmers can benefit from modern biotechnological applications. Other applications include sweet potatoes and flori culture which is a major East African export industry.

4.3 Pigeon pea

In Eastern and Southern Africa, pigeon pea is an important export crop that fetches premium prices but the full potential of the crop has not been realised. It is well adapted to low rainfall patterns and thrives in low fertility soils. Pigeon pea production is not labour intensive which is a major advantage in conditions of declining labour availability due to rural-urban migration and HIV/AIDS. In addition to its income earning potential, other benefits include its good nutritional properties and ability to withstand and even reverse environmental degradation and declining soil fertility. Advantage should be taken of this as a regional comparative advantage. Modern plant breeding technologies show promise for improving yield and quality of pigeon pea varieties. This is being assisted by the Africa Agricultural Technology Foundation (AATF) which is brokering the transfer of technology developed for more commercially interesting crops for employment in pigeon pea breeding for the benefit of African smallholders.

4.4 Herbicide seed-dressing for control of Striga in Maize

In Africa, over 40 million hectares of land are severely infected with the parasitic plant *Striga*. According to FAO, *Striga hermonthica* and *S. asiatica* decimate maize, millet, sorghum, and upland rice throughout Africa with over 100 million people losing half their crop production to this root-attaching parasite.

Low doses of imazapyr (<30g/ha) herbicide applied as a seed coating to imidazolinone resistant (IR) maize seed gives early *Striga* control before or during attachment to the host. Tested extensively on *Striga* - infested farmers' field in Kenya, this technique leaves fields virtually clear of emerging *Striga* season-long and produces maize yields two to three times higher than farmers' varieties at little added cost.

Doubling maize yields from 1.0 ton would produce enough food to provide 400 million people with their current average annual maize consumption. Farmers who no longer lose their maize to *Striga* can be expected to invest more in weeding and fertiliser and could achieve 3.5 ton/ha. This would reduce the cost of importing and distributing maize to deficit areas.

4.5 Minisett Seed Yam

Yam is grown in all West African countries and is an important source of carbohydrates and income. However, its production is limited by shortages and high costs of seed yams. The yam minisett technology enables production of large quantities of seed yam in small areas. Adoption of this technology will not only reduce the scarcity and high cost of seed yams but will also create seed yam production and marketing enterprises in West and Central Africa.

4.6 Cassava

NEPAD has a major project proposal on cassava because, in addition to its contribution to food security through high yields and storage qualities, it is emerging as an industrial crop with high export potential. There are currently, a large number of high-yielding cassava varieties developed by IITA and the Root and Tuber Research Institute, Umudike, Nigeria ready for testing in the four sub-regions of sub Saharan Africa. Procedures and support systems for developing rural enterprises for processing and marketing cassava are also well advanced through collaboration between IITA and Nigerian scientists and Nigerian entrepreneurs.

4.7 Farmer Innovation

Farmer derived innovations have been largely ignored by African research and extension institutions. This should not be the case because there are many such innovations which could be out-scaled to great advantage some of which are described in the book by Reij and Waters Bayer on *Farmer Innovation in Africa*, which is aptly sub-titled "A source of inspiration for agricultural development" (Reij et al., 2001).

Kaboré and Reij (2003) reported on the emergence and spread of an improved traditional soil and water conservation practise in Burkina Faso. This is described in some detail here to serve as an illustration of the potential for impact of such products of farmer research. The innovation which involved improved traditional planting pits was developed in the context of recurrent droughts and frequent harvest failures. The rapid growth of population in the central plateau region of Burkina Faso had resulted in reduced fallow, impaired soil fertility, accelerating soil erosion and a serious fall in farm productivity. To make up for this, cultivation was expanding into areas with marginal soils at a rate faster than the population expansion. This was bound to lead to poverty, famine and environmental disaster.

There had been attempts by the extension services and NGOs to introduce soil and water conservation techniques such as bunds but these were fraught with technical and financial problems for the farmers and were not adopted. However, there was a traditional use of planting pits applied on a small scale for rehabilitating rock-hard barren land that rain water could not penetrate. Farmers improved this technique by widening the pits and applying manure which concentrated water and nutrients at the same spots. This was done in the dry season to attract termites that digested the organic matter, making the nutrients more readily available to plants. The termites also dug tunnels that improved the soil structure. This pitting technique is less constrained by labour shortages because the land is prepared in the dry season when there are fewer farm operations. The prior preparation of the pits also enables farmers to plant immediately on the onset of the rains, thereby taking full advantage of the growing season. The greater moisture and organic matter content enable better responses to fertiliser in crop yields and biomass production. In addition the seeds of bushes and trees contained in the manure can germinate leading to dramatic regeneration of vegetation.

Kaboré and Reij (2003) estimate that thousands of farmers have used this technique mainly to reclaim barren degraded land and sometimes also to improve the quality of their existing fields. The technique is now practiced in Benin, Côte d'Ivoire, Ghana, Mali, Niger, and Togo. Though there is not a lot of data on the yield benefits it is safe to assume that it would not be adopted if the yields were not significantly higher. There are year to year variations but Kaboré and Reij (2003) reported that the yields from areas with planting pits are invariably positive compared to yields on similar land without pits. The data in table 4, which were collected in Niger from 1991 to 1996, supports this finding.

Table 4: Impact of planting pits on cereal yields 1991 – 1996 (kg/ha), Illela District Niger

Rainfall	1991	1992	1993	1994	1995	1996	Average 1991-92
<i>Badaguichiri</i>	726 mm	423 mm	369 mm	613 mm	415mm	439 mm	
<i>Illela</i>	581 mm	440 mm	233 mm	581 mm	404 mm	440 mm	
<i>Tassa</i>							
<i>T0</i>	-	125	144	296	50	11	125
<i>T1</i>	520	297	393	969	347	553	513
<i>T2</i>	764	494	659	1486	534	653	765
<i>Average District</i>	386	241	270	362	267	282	301

Source: Hassane et al. (2000, p. 26) quoted by Kaboré and Reij (2003)

Table 4 reveals that planting in pits with manure (T1) raises yield above that on untreated fields (T0) and further benefits can be derived from adding inorganic fertilisers (T2). The increments are greatest in good years. In very dry years the yield increases may not be sufficient to cover the cost of inorganic fertiliser but the surpluses that farmers are now able to produce in good years farmers can be stored for use in low rainfall years.

Amongst the various environmental impacts of the pitting technique perhaps the most remarkable is the impact on groundwater levels. On the Central Plateau of Burkina Faso many wells had begun to dry up at end of the rainy season and they had to be frequently deepened. This was adding to the burden of women and girls in fetching household water. However, following adoption of the pitting technique, there was substantial improvement in well water levels over 10 – 15 years which could not be explained by higher rainfall and is attributable to the control of surface runoff and better infiltration.

4.8 The Potential of upstream science

Opinions are varied about the potential and desirability of employing biotechnology to increase yields of Africa's staple crops but the available empirical evidence favours judicious applications. This was confirmed by African Ministers for Science and Technology who met in 2005 under the auspices of the African Union and the New Partnership for Africa's Development, NEPAD, to discuss Africa's Science and Technology Consolidated Plan of Action. The ministers noted that science, technology, and innovation are critical to the realisation of the United Nations' Millennium Development Goals (MDGs) and they plan to mobilise financial resources and increase expenditure on national research and development.

NEPAD is focusing on four areas to harness science and technology to fight poverty, improve human health, protect the environment, promote industrialisation, and help advance global science and innovation for development:

1. Information and communication sciences;
2. Geosciences;
3. Environmental sciences; and,
4. Biosciences.

In some countries, such as South Africa and Kenya, biotechnology applications are already quite advanced. Ghana and Nigeria are also committed to employing biotechnology to improve living standards. This will involve a wide range of biological specialisations related to living organisms, including animals, microbes, plants and trees. Of these, the determination of the DNA sequences that make up the 'genetic blueprint' of organisms, bioinformatics, and analyses of the vast information produced by genomics research possibly have the greatest potential for producing novel technologies for improving African smallholder and pastoral farming systems. The application of new computer-based techniques is dramatically accelerating decoding of the genetic composition of organisms. This has already pro-

gressed from decoding the simplest forms of viral life to more complex multi-cellular organisms, including the landmark mapping of the human genome in 2001.

Bioscience also includes techniques for the characterisation and manipulation of genes that regulate specific traits, such as pest resistance or stress tolerance which can be used in identifying and breeding better adapted livestock and varieties of crops and trees and in the development of more accurate diagnostics and improved vaccines. Indeed, a new generation of safer and more affordable vaccines have already been developed for human diseases such as meningitis and animal diseases such as rabies. In food and agriculture, applications of biosciences have led to the development of new crop varieties with improved tolerance to pests and diseases and to better food storage quality. Africa needs this new science to reduce poverty and create wealth in sustainable and equitable ways with technologies specifically tailored to its unique regional, national and local circumstances (Sera-geldin et al., 2000).

Africa must take advantage of knowledge and technologies developed out of Africa, but there are African problems and opportunities that will only be addressed if Africa has its own capacity to acquire knowledge and make new discoveries that will fuel endogenous innovation. This capacity is needed for research on diseases that are killing the crops and livestock of low-income smallholders and pastoralist which are of little interest to non-African research institutes. The lack of incentives for non-African laboratories has resulted in there being no vaccines or diagnostic tests for some of the most nutritionally and economically devastating diseases of livestock in Africa. Other diseases are being inadequately controlled by crude technologies sometimes with undesirable side effects, such as environmental pollution. The control of such 'orphan diseases' requires the development of specific vaccines and diagnostic tests and better use of indigenous breeds that possess genetic resistance to disease.

To achieve the advances needed by African farmers and livestock producers, NEPAD has promoted the establishment of *Biosciences eastern and central Africa* (BecA) as the first in a continent-wide network of four such centres of excellence that will facilitate the generation and use of cutting-edge science and technology by the continent's researchers. BecA will enable Eastern and Central African countries to develop and apply bioscience research expertise to produce technologies that will help poor farmers to secure their assets, improve their productivity, and widen their market opportunities.

The research that will be carried out at the NEPAD centres of excellence will focus on the problems of African smallholders and pastoralists that are not being addressed by other research institutions or the private sector. This would, for example, include production of stress-tolerant, disease-resistant or nutritionally enhanced cultivars of staple crops that are of little or no importance to industrialised countries or multinational agribusiness.

5. Policy constraints on innovation

As noted above, research for resource poor farmers will continue to depend on public investment because the market for smallholder innovations is too small to attract private investors. Despite this, due to disappointment with the impact of agricultural research and extension, there has, until recently, been a drastic decline in funding for public services from both national and international sources. This has left many research and extension services in disarray and dispirited. The attempt by some external donors and national governments to use alternatives such as NGOs as an excuse to abandon, rather than reshape, the public sector was ill advised and must be redressed. Rather than reduce funding, and thereby compound the problems, manifest, for example, by high staff to operating cost ratios, there is need for a more systemic approach to agricultural research and extension. The objective should be to improve integration in ways that will enhance the potential of a wide range of actors to add value to each others contributions to development.

Economic creativity is driven by the quality of 'technology linkages' and 'knowledge flows' amongst and between economic agents. Thus effective agricultural innovation requires a network of inter-institutional linkages involving actors across the whole value chain from concept to adoption (Clark, 2001). A characteristic of high-impact innovation systems is that the interactions are dynamic and progressive. Conversely where systemic components are compartmentalised and isolated from each other they are not so productive.

The key property of an agricultural innovation system is therefore not so much its component parts, or nodes, but rather how it performs as a dynamic whole. Even if the individual elements of such systems are strong the system as a whole may nevertheless be weak. The capability to learn and build new competencies will depend on how well the parts fit together and on the strength of these connections. There are four other key properties of successful agricultural innovation:

1. Looking forward and preparing for future scenarios;
2. Focusing on entrepreneurship in its broadest sense;
3. Incorporating organisational and institutional innovations as integral parts of dynamic systems; and,
4. Integrating national systems of innovation with foreign knowledge sources.

The plethora of information providers and rapid technological changes in information handling is making much information available to economic agents, including farmers, but to capitalise on this new ways will have to be found to minimising the costs of information search and maximising receptivity of those who should use the information. It is this essential interactive feature that ultimately lies behind the notion of an innovation system and distinguishes an effective one from an ineffective one. A system which permits information interchange among otherwise independent organisations, where management hierarchies do not intrude excessively and where encouragement is provided to individual agents to

try out new and possibly risky approaches (and even make mistakes), stand every chance of contributing greatly to development.

The basic point is that the lack of technological development in African agriculture is not something reducible to simple solutions such as lack of finance. Nor is it due solely to lack of research skills since much more could be made of existing capacities. The real need is for institutional structures that permit the involvement of all actors in the value chains and the symbiosis of knowledge search with knowledge use. Only when that is successfully achieved will the problems begin to reduce.

Such structures will not come about by chance. There will have to be deliberate policy initiatives backed up by re-directed and new and additional human and financial resources. The existing hierarchical structures of agricultural research and extension organisations will have to be opened up and decentralised. Policies are required that will provide incentives for both organisations and individuals to engage in multi-disciplinary, multi-institutional and multi-stakeholder systems of innovation.

6. Africa's capacity to build capacity for agricultural innovation

Despite the importance of agriculture in African economies, tertiary agricultural education has not been spared the erosion caused by decades of under investment, loss of staff incentives and failure to recruit replacements for an ageing cadre of professors. The recent InterAcademy Council reports (InterAcademy Council, 2004a and InterAcademy Council 2004b) are amongst many that have highlighted the importance of universities in developing countries being vibrant centres of excellence capable of propelling their nations into the knowledge economy. All the studies agree that without sufficient skilled entrepreneurs, managers and technicians even the best development plans and projects will fail. Africa missed out on the Green Revolution. Africa cannot afford to miss out on opportunities such as the ICT and gene revolutions. It is, therefore, in everyone's interests to strengthen the capacity of Africa's universities and colleges to build the required human capacity.

A paper by Watts et al. (2003) on institutional learning and change indicates that effective training in developing country contexts *inter alia* entails:

- Acquiring a more sophisticated understanding of how development occurs, which recognises that innovation has multiple sources
- Recognising the emergence of a wide range of actors in agricultural and rural development – including NGOs, private companies, farmer-operated enterprises and research institutions
- Accommodating new participatory working practices involving the beneficiaries
- Comprehending the implications of globalisation and the increasing influence of international markets on the rate and direction of technological change
- Contributing to the increasingly important role of knowledge in the global economy

After independence African universities dramatically increased undergraduate numbers. But under-funding, lack of career prospects and professional isolation has lowered morale and caused many staff to leave. This has brought about an urgent need to build up the human capacity that Africa needs for sustained endogenously driven innovation, especially in its most critical industry – agriculture (Muir-Leresche, 2003).

The development and application of effective training programmes, methods and resources will require revision of current curricula to address gaps and to make them relevant to development and the needs of future employers. In addition to reinforcing traditional scientific disciplines, African universities are looking for support in delivering education and training that goes across disciplinary boundaries and interacts with other disciplines and development issues which is required for success in modern innovation systems approaches. This will require across the board strengthening of teaching and training in the hard-system skills, required for specialists to put their disciplines in perspective and understand the contributions of other disciplines, and the soft system skills that they require to be able to negotiate their contributions, work in modern participatory ways and resolve conflicts.

There is some misunderstanding that suggests that disciplinary knowledge and skills will become less important in inter-disciplinary work. The opposite is the truth because individuals, working in teams, will be relied upon to contribute the best that their disciplines can offer to the tasks in hand. Thus teaching and training in the disciplines will have to be constantly reviewed and upgraded. The roles of biosciences in development discussed above illustrate the need to build scientific and technical competencies in areas such as functional genomics and bioinformatics to help close the enormous disparities in new science knowledge, skills and technologies that currently divide Africa from the rest of the world. This will be accomplished by improving the institutional frameworks in which the scientific investigations are undertaken as well as building the required human scientific capacity. Amongst the required improved competencies is a greater capacity for managing intellectual property and ensuring the safe use of new technologies through science-based biosafety and regulatory systems.

BecA provides an example of how the research and teaching institutions can collaborate better. As stated on its website, BecA is committed to working with universities to train young scientists to MSc and PhD levels and to providing opportunities for post-doctoral fellows. It will not become a degree-awarding institution but will enhance the work of university laboratories. The close association of BecA's facilities with universities will enable academic staff in Africa to further their professional development and careers through fellowships and secondments that will allow them to undertake high-priority research for the poor within first-rate facilities and with direct access to international as well as African resources and scientific skills.

BecA's commitment to strengthening Africa's capacity for biotechnology is consistent with one of the six highest priorities for scientific and institutional capa-

city that were determined by African Vice Chancellors, Deans of Agriculture and other stakeholders who met at the Commission of the African Union in September 2004 to develop a programme for building Africa's scientific and institutional capacity (BASIC). It is envisaged that BecA will evolve into a service provider of first resort to biosciences research for the poor while becoming an integral component of the academic and research establishments of Africa. Provision of world-class biosciences training and facilities will motivate and equip practising African scientists to reach their full potential within Africa and should attract many of Africa's 'best and brightest' scientists working abroad to return to Africa to work directly on Africa's development in Africa.

The vital contribution of higher education to the development process is increasingly recognised, especially with the growing awareness of the role of science, technology, and innovation in economic renewal (UN Millennium Project, 2005). But up to the present, initiatives for building African capacity have been essentially supply driven because, even though they for the most part do respond to identified demands, they are shaped and limited to what a restricted group of providers can provide either in money or staff terms. There is no doubt about the immensely valuable contributions that these programmes and projects have made. However, they have provided band aids rather than systemic cures and there are many important needs that have not attracted significant support.

Most external support has been directed at particular masters and doctoral programmes. Even though there have been increasing complaints about the quality of candidates for these programmes little has been done to redress the falling quality of BSc teaching. Other symptoms of deteriorating BSc teaching are the difficulties that many graduates have in finding employment and the need for additional training by employers. This indicates a critical need that affects the whole agricultural industry, including marketing and policy making institutions.

A new approach is required to building Africa's scientific and institutional capacity that will address the full extent of the need and take advantage of all potential capacity building providers in the most effective and cost efficient ways. Such a comprehensive approach has been made possible by the convergence of several significant recent policy and institutional evolutions. Amongst the changes are the emergence of a vigorous African Union, out of the former Organisation of African Unity, the articulation of NEPAD and its Comprehensive Africa Agriculture Development Programme (CAADP) (NEPAD, 2003) augmented by the Framework for African Agricultural Productivity (FAAP). At the same time the Regional Economic Communities (RECs) are gaining importance and the Sub Regional Organisations for agricultural research (SROs) and the Forum for Agricultural Research in Africa (FARA) have gained in experience and capacity. Together, these developments have created an enabling structure for supporting national systems and institutions through which all stakeholders can align their contributions to Africa's agricultural development based on their comparative and collaborative advantages.

7. Harmonising internal and external actors

The structure extending from national stakeholders up to the halls of the African Union outlined above covers all aspects of agricultural development. It is supported by numerous policy and planning instruments such as the Millennium Development Goals (MDGs) and the national and regional Poverty Reduction Strategy Papers (PRSPs). The preparation of these instruments has promoted and internalised a greater commitment to participatory process involving domestic stakeholders as well as external development partners including the World Bank and International Monetary Fund and bilateral agencies of OECD member states.

To take full advantage of these it will be necessary to develop programmes backed by appropriate types, levels and consistency of funding for strengthening African agricultural innovation and harmonising both the internal and external actors.

The establishment of BecA provides a good demonstration of the potential to be derived from harmonising actors and donors. As indicated on BecA's website "it was made possible by an initial investment of more than CAD\$ 30 million by the Canada Fund for Africa through the Canadian International Development Agency. The facilities will be hosted by the International Livestock Research Institute (ILRI), in Nairobi, Kenya. The Canadian grant will be used primarily to refurbish existing laboratory facilities, to provide new facilities and equipment (including additional biosafety containment facilities) as necessary for a centre of excellence in biosciences, and to develop capacity in biosciences amongst African scientists through fellowships and educational and training activities in ways that complement existing programmes at national, regional and international levels.

The Gatsby Charitable Foundation, the Rockefeller Foundation and the Syngenta Foundation for Sustainable Agriculture are also supporting the design phase which includes national and regional consultations to identify high-priority programme and project areas. The Doyle Foundation has sponsored the development of the concept through consultations in Africa and with prospective partners internationally. NEPAD is actively seeking the involvement of other partners in Africa and in the international development and science communities to join in co-financing the research programmes and the capacity-building activities that will be undertaken by African scientists working at the new facilities.

The development of the programme for Building Africa's Scientific and Institutional Capacity (BASIC) that is led by FARA in collaboration with the 127 member universities and colleges of the African Network for Agriculture, Agro-forestry and Environment Education (ANAFE) is another example of the potential to address major developmental issues through collaboration. BASIC takes advantage of a unique historical opportunity which is bringing about commitments such as of European universities through the Network of European Agricultural TROPICALLY and Sub-tropically Oriented Universities (NATURA) and American universities through the National Association of State Universities and Land Grant Colleges (NASULGC) to responding collectively to demands from Africa for pedagogical assistance. In a related response, the CGIAR system of 15 international

research centres is seeking ways of better integrating the centres' programmes amongst themselves and with national, sub-regional and regional priorities. They are also seeking to enhance their impact and there is hardly a better way of doing that than by getting their products incorporated in tertiary education. This will not only raise awareness and use of their final products but, at least as importantly, it will provide African graduates access to the huge range of intermediate products that the Centres have developed in the course of developing their final products. These are often what the African graduates need to be able to be proactive in helping smallholders and pastoralists, for example in coping with climate change that will require changing local crop and livestock production and protection practices. The increased exposure to research and opportunities to conduct research that the Centres will provide to faculty members will also be a major contribution to the quality of teaching and the retention of the best scientists in African universities.

7.1 African agricultural research systems

The national agricultural research systems (NARS) are comprised of the national agricultural research institutes, universities and colleges, NGOs, and international and regional institutions and non-African advanced research institutes working in Africa.

The NARS have endured extended periods of under funding and retrenchment and are in need of urgent reinforcement and reinvigoration. The international and regional agricultural research centres and non-African advanced research and tertiary education institutes have contributed greatly to Africa's agricultural development but would be more effective if there was a framework within which their contributions could be targeted and focused. This would help them focus their traditional role in filling gaps in specialised human and infrastructural capacity and improve their contribution to building capacity to reduce Africa's dependency.

The sub-regional research organisations (SROs) were established to improve the cumulative impact of national systems through collective action at the sub-regional level and they have established sub-regional priorities which are vital contributions to the coherence and effectiveness of Africa's agricultural innovation systems. Taking this process to the continental level, FARA was formed to add value to the work of its four member SROs, i.e., ASARECA, CORAF/WECARD, SADC-FANR and the North African members of AARINENA. FARA focuses on issues that add value to the efforts of the sub-regions and those which will be more effectively dealt with from a continental perspective. Hence NEPAD has designated FARA to be its technical arm for advancing the objectives of CAADP Pillar IV which covers agricultural research, technology dissemination and adoption and cross cutting capacity building.

In addition to the research institutions, FARA's stakeholders also include agricultural extension and development agencies and the private sector. Traditionally such institutions have not collaborated well with the publicly funded research institutions and have been more or less confined to disseminating technologies. This

is a wasteful denial of their full potential to contribute to technology development and the divisions of responsibilities must be revised to enable more integrative and participatory systemic approaches (Werner, 1993). The end users, i.e., smallholders and pastoralists, should be better involved in determining, implementing and assessing research agendas and outputs.

7.2 The Comprehensive Africa Agriculture Development Programme (CAADP)

CAADP was prepared by NEPAD to promote interventions that best respond to the widely recognised crisis situation in African agriculture. It deliberately focuses investment into the following three mutually reinforcing 'pillars' that can make the earliest difference to Africa's dire situation: (i) extending the area under sustainable land management and reliable water control systems; (ii) improving rural infrastructure and trade-related capacities for improved market access; and (iii) increasing food supply and reducing hunger. CAADP also pays attention to emergencies and disasters that require food and agricultural responses or safety nets because the dislocation caused by them could undermine or reverse development achievements.

As noted above, CAADP has a fourth long-term pillar dedicated to agricultural research, technology dissemination and adoption. It has four sub-themes that will collectively contribute to testing the central hypothesis "that conservation and efficiency of use of soil and other natural resources will be optimised under conditions of market and/or policy and institution-driven productivity":

1. Integrated natural resource management;
2. Adaptive management of appropriate germplasm;
3. Development of sustainable market chains; and,
4. Policies for sustainable agriculture.

Scientific capacity building is a cross cutting theme.

7.3 Framework for African Agricultural Productivity (FAAP)

Achieving the goal, objective and purpose of CAAP Pillar IV requires purposeful direction and careful husbandry of the available human, infrastructural and financial resources. It will also require significant new and additional funding that will only be made available when investors have confidence in the capacity and determination of Africa's agricultural innovation systems to deliver and achieve the necessary levels of impact in improving livelihoods. The Framework for African Agricultural Productivity (FAAP) has been developed to ensure that these conditions are obtained for successful implementation of CAADP Pillar IV.

FAAP's specific objectives are to:

1. strengthen Africa's capacities for agricultural innovation and increase investment by African governments in technology development and dissemination;
2. foster and support needed reforms in African research and extension institutions, and in markets and the agricultural policy environment; and

3. link national, sub-regional and regional programs/networks with strong international partnerships to achieve efficiency and effectiveness in technology generation, dissemination and adoption.

FAAP will achieve these objectives by guiding and assisting the development of Africa's agricultural innovation systems and promoting harmonisation of internal and external actions and actors. FAAP's will focus on three principal components that have been identified as essential for implementing CAADP Pillar IV:

- i. Empowering farmers so that they can participate in setting the research and development agenda and be active partners in implementation and quality control;
- ii. Strengthening farmers' support services so that they will be able to access technologies and improve their own livelihoods through having the ability to continuously innovate and improve their production systems and out-scale innovations;
- iii. Strengthening agricultural technology generation for enabling and undepinning progressive smallholder and pastoral agricultural enterprises.

Capacity strengthening is a crosscutting requirement of each of these components but, because it requires specific actions to redress past lack of attention and under investment, it is treated as a fourth component, i.e.,

iv. Strengthening Africa's capacity to build the capacity required for endogenously driven agricultural development so that Africa can break its dependencies and take up its proper position in world trade and global environmental conservation.

With these four components and the necessary institutional changes Africa will have the capacity for agricultural innovation capable of meeting CAADP's 2020 vision and, as indicated in CAADP Pillar IV, of "address(ing) the need to make a paradigm shift away from a principally commodity-driven technological package approach to a truly integrated agricultural research approach and to ensure that researchers (national and international) work together with smallholders and extension agencies, the private sector and NGOs to have impact on the ground."

FAAP will provide a framework for harmonising the actions of internal and external stakeholders in Africa's agricultural research for development. This will facilitate the identification and exploitation of value adding complementarities amongst programmes and projects that cost about US\$2.5 billion per annum in government subventions, grants and loans and bilateral and multi-lateral development assistance, for institutional reform and strengthening of agricultural research and technology dissemination and adoption at national, regional, and continental levels.

FAAP will facilitate the proper evolution of institutions and programs underwritten by: sound planning and reporting; sustainable funding; sound procurement and disbursement procedures and monitoring and evaluation. FARA will institutionalise comprehensive quality control that will assure CAADP stakeholders of value addition and optimal use of human, physical and financial resources, which will be a major factor in the alignment of the research and investor institutions through FAAP.

FAAP will be a platform for advocacy for new and additional resources from African governments, Africa's development partners, philanthropic organisations and the private sector and promoting funding continuity so that innovations can be advanced through to uptake and impact. FAAP will also provide a platform for sharing information and transferring best practices and brokering knowledge between Africa's sub-regions and from outside of Africa. It will set out the guiding principles and operational structures for establishing the credibility of the framework as a means of influencing the selection of actions and endorsing the allocation of resources in support of continental, sub-regional and national priorities as established by NEPAD and FARA, RECs and SROs, and national governments respectively.

8. Conclusion

In the last decades of the 20th century the productivity of African agriculture failed to keep pace with the increase in population. This and the increasing frequency and severity of adverse weather has worsened the food security and incomes of millions of rural people. Productivity is stagnant not because agricultural research has failed to produce viable yield enhancing innovations. There are a number of successful innovations not only from formal research but also from farmer innovation that have not been sufficiently disseminated and adopted. However, a more concerted effort is needed to contextualise the new technologies with the farmers so that they will be widely adopted. There is also need for new agricultural research policies that will provide institutional and individual incentives for multi-disciplinary, multi-institutional and multi-stakeholder participatory approaches to research which will strengthen African agricultural innovation.

The scale of action that is needed to improve the livelihoods of over 300 million Africans who are presently held in poverty traps will require not only radically new ways of doing research that can cope with the complexity and dynamics of African smallholder and pastoral systems. It will also require a new and comprehensive approach to strengthening Africa's capacity to build capacity. To be up to the task and sustainable this must be African-led and designed to utilise all available capacities with minimal transaction costs.

In recent decades there have been major advances in developing structures through which all agricultural research and development institutions in Africa can determine where they can contribute most effectively. This structure which stretches from the producers to NARIs and through SROs, FARA to NEPAD and the African Union is being fleshed out by common goals such as the MDGs and plans such as the PRSPs. CAADP sets out the what needs to be done and FAAP provides a framework for implementing CAADP Pillar IV. Adherence to FAAP guidelines and principles will increase the effectiveness of the agricultural and development efforts of all stakeholders.

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9. Discussion on Technological options for small-scale farming in Sub-Saharan Africa

9.1 Göran Djurfeldt*

Djurfeldt began his discussion by lauding the advances made by Monty Jones on the agricultural research front. The *achievements of Jones in relation to Nerica and the development of new cassava varieties resistant to the cassava mosaic virus* by the IITA in Ibadan were mentioned. Likewise, tissue-culture banana developed within the auspices of the IITA have prevented a complete obliteration of banana argued Djurfeldt. In sum, therefore, a large amount of technological improvements have taken place, although these may be largely unknown outside specialist circles.

Nonetheless he argued that the problem of the weak impact of technology adoption and spread of new varieties on productivity (as suggested by Evenson and Gollins (2003) for instance) suggests *that contextual factors may be constraining productivity*. Arguing on the basis of the so-called cassava revolution in Nigeria (by some authors dubbed “Africa’s best kept secret”), Djurfeldt suggested that despite the widespread replacement of old cassava varieties with improved varieties resistant to cassava mosaic virus in many parts of Africa, Nigeria alone provides evidence of a commercialization process.

Djurfeldt concluded by raising the question of *how the relatively stagnant economic and political factors characterising Africa* were reflected in the policies being established by FARA in relation to technological development.

9.2 Round-table discussion

The ensuing discussion came to focus on a number of topics.

- *Firstly, the issue of political commitment to agriculture in general and technological advances in agriculture more specifically*, among African countries was once again raised by a number of participants. Jones for instance argued that a refocus within the international community (Kofi Annan, Tony Blair) towards Africa and the need for African leadership has prompted the evolution of the NEPAD and the CAADP. In addition, he suggested, a commitment from the people on the ground, as represented by NGOs and the private sector, has been evident in their response to the establishment of the three pilot learning sites. For the first time, therefore, argued Jones, all sectors are coming together in a concerted research development effort: there is a continental group of NGOs and altogether 80 stakeholders are participating in these three research sites. In this context the pilot learning sites were perceived as a major area for development, leading to positive spillover effects around these areas. In sum therefore, there is ground for optimism argued Jones. Mkandawire agreed with this characterisation of commitment to agriculture among the African political leadership and suggested that for the first time in the past twenty years an emerging political commitment to agriculture is on its way through the NEPAD’s CAADP. Rahmato, in contrast

* Professor, Sociology Department, Lund University

to the optimism being voiced by Jones and Mkandawire, questioned that African leaders are really committed to agriculture and more generally queried to what extent the agenda is being driven by the real problems of African farmers? Gerremo raised the issue of good governance in relation to the new structures being developed by NEPAD. He suggested that if donor voices are too prominent in the NEPAD and the CAADP this would be problematic.

- The issue of *public expenditure on agriculture* by individual governments and its relationship to donor spending was raised by a number of participants. At a general level, Ogendo asked for clarification on the 10 per cent of public expenditure devoted to agriculture and how much of this was related to expenditure on issues of wider rural development. Mkandawire in response argued that financing of agriculture in general is being monitored through the peer mechanism of NEPAD, to ascertain that the 6 per cent growth rate in public expenditure is being achieved. Meanwhile, the key sector focus of the CAADP means expenditure is not directed towards broader rural development issues. The particular pillars of the CAADP that expenditure is devoted to, is however, the prerogative of individual governments, as long as their strategy documents for agriculture are in line with the principles of the CAADP. NEPAD in general is premised on domestic sourcing with NEPAD's financing of regional structures also occurring through national governments. Hence, argued Mkandawire, donor support on its own will not increase agricultural productivity.
- *The role of technology, farmer innovation and genetic materials*: in response to Djurfeldt's discussion, Jones argued that the scope for technology adoption is still large, for instance in relation to Nerica which has the potential of doubling yields. In general, suggested Jones, farmers are highly innovative and wish to adopt new technologies. Although Rahmato lauded the attention awarded to farmer innovation and the appreciation of indigenous knowledge by African researchers, he voiced a concern that indigenous African genetic material was not being preserved and that the diffusion of new crop varieties may be having a harmful impact on the environment, natural resources and human and animal health. Jones in response agreed that the preservation of genetic material had been a problem in the past and that a strategy was needed to handle this. Although seed-centres have appropriate structures in terms of gene banks, most of the national bodies lack appropriate structures. Hence, concluded Jones, there is a need to identify national institutions that can play the role of appropriate gene banks along with the development of regional pilot sites.
- *Issues relating to trade and market protection*: the issue of protection of farmers was raised in relation to Nerica, which although providing high yields still fails to compete with Asian rice farmers. Axelsson-Nycander in this context pointed to the protection of local rice farmers in Ghana and queried whether protection of farmers was necessary to mitigate competition from Asia. Jones, however, argued that products have to compete effectively within the international field. The pilot-learning sites for this reason cut across countries and

cover 20-40 million people where building standards for the regional market can provide the springboard for eventually competing on the international market. Jones also mentioned that the issue of African representation at the WTO-meetings was being championed by FARA. Klum reflected on the level of domestic margins (150-200 per cent, mentioned by Sarris during the discussion which related to Hazell's presentation). He argued that tariffs in general were not needed, but that a Green Revolution in Africa needs to contribute both to lowering the price to the consumer and raising yields.

- *The issue of developing markets/market control* was raised in relation to government market intervention. Jones mentioned that historically governments in Africa have adopted numerous strategies to boost agricultural growth and rural development. In the 1960s state farms and government run markets led to problems of declining productivity and for this reason governments should not be requested to control the market. The central question, however, suggested Jones, is how to develop the market in a context of lacking volumes. The experience with verica in Guinea (and possibly also Uganda and Rwanda) suggests that most subsistence farmers who experience rising productivity start looking for markets to sell their goods in. The regional development context is an important source of market development suggested Jones, where production increases can be exported to neighbouring countries, for instance in the Lake Kivu pilot learning site. The World Food Programme is also being committed to purchase regionally. The question of food-security is intimately connected to domestic market expansion and improvements in the general well-being of people so that non-food producers have the means to purchase and consume food produced by others. However, Wretborn cautioned on a general level that experience not only from Asia (where complicated subsidy-systems still exist), but also from the EU and the US, suggest that the type of government intervention in markets for agricultural produce used in these countries should be avoided.

Building Institutions for Markets: The Challenge in the Age of Globalization

Eleni Z Gabre-Madhin *

1. Defining the Market Challenge in the Age of Globalization

As the twentieth century drew to a close, it can be said that the market had triumphed. The world witnessed, along with the fall of the Berlin Wall, the dismantling of socialist economies in the now transition economies; the celebration of the market-oriented East Asian “miracle”; the integration of global financial markets; broad sweeping liberalization of markets across all continents; and the increased globalization of production and distribution processes.

In the past two decades, there have been enormous changes in the global economy, encompassed in the term “globalization.” Although there is no generally accepted definition, the term generally refers to increasing interconnectedness of countries in terms of economic, environmental, and socio-cultural factors (see Morrissey and Filatotchev, 2000). Globalization can be seen as “a state of the world involving networks of interdependence” (Keohane and Nye, 2000). Thus, the combination of two decades of reduced barriers to trade and the considerable increase in the flow of capital are pivotal to globalization.

The globalization of the agro-food system is manifested in several important trends. First, in recent decades, the world has witnessed the increased integration of firms into geographically dispersed networks or “global commodity chains,” linking suppliers in one country with customers in another (Dolan et al., 1999). For farmers in developing countries, this often takes the form of increased linkages with international markets. Contract farming, in which agricultural production is contracted by processors or exporters, is one way in which these linkages have been strengthened, particularly for perishable, high-value commodities such as horticultural crops (Little and Watts, 1994). Second, within these chains, there has been a shift from homogeneous commodities to increasingly differentiated products (off-season vegetables, exotics) in which the role of grades and standards, particularly private ones, has increased. Third, in these global commodity chains, transnational firms are becoming increasingly important actors in coordinating production and marketing. In the case of fresh fruits and vegetables trade, supermarkets chains play a major role in transmitting quality, food safety, and other requirements from consumers to farmers (Dolan et al., 1999). One reason that vertical coordination is becoming more important, particularly in agricultural exports from developing countries to industrialized countries, is that retailers and consumers are taking an interest not only in the characteristics of the final product but in the way it was produced.

* Program leader, International Food Policy Research Institute, Ethiopia

At the same time, there is lingering concern that, despite two decades of structural adjustment aimed at liberalizing markets, agricultural markets for traditional bulk commodities remain weak (Kherallah et al., 2002). The overwhelming evidence suggests that improving price incentives for farmers was necessary but not sufficient to boost agricultural production. Long run aggregate supply elasticities, with respect to prices for the more advanced developing countries, tend to be much higher than for other developing countries with poor infrastructure, weak public institutions, and low levels of human capital and private sector development.

Following the reduced role of the state in the distribution of agricultural outputs and inputs, the development of a reliable private sector and well-functioning markets has been slow, exacerbated by poor infrastructure, weak and highly fluctuating terms of trade, high transaction costs, the lack of market information, and inadequately developed financial markets, particularly in rural areas. In this context, market participants, particularly small-scale farmers, are now exposed to greater risk; market distribution occurs at prohibitively high transaction costs, which are passed on to consumers; the market remains thin and unable to stabilize itself in periods of either surplus or deficit; and the market continues to be weakly integrated, both domestically and externally. Further, the investigation of private sector micro-economic behavior reveals that private operators in the grain market are generally small or micro-enterprises, with limited modern business management skills, limited capacity to take risk, and very weak financial liquidity (Gabre-Madhin and Amha, 2003).

1.1 The Stakes for Smallholder Agriculture

Small-scale agriculture has witnessed a resurgence of interest in the recent poverty reduction debate, as it is presented as a “growth-equity win-win” (Vorley and Fox, 2004). But the evolving global agro-food system and the advances of market liberalization have raised unique challenges for smallholder integration into the global market and have polarized the debate between staples versus high-value agriculture, and between domestic versus export-led market integration.

At one level, it is argued that smallholders need not be marginalized in the changing global agro-food system, as they may be involved in export horticulture as employees on large plantations, commercial farms, and packing plants, or as independent farmers sometimes working under contracts with exporters. There have been many concerns about the impact of contract farming on poor households, but some recent studies suggest that under certain circumstances there are rewards for smallholder contract farmers (McCulloch and Ota, 2003; Stringfellow et al., 1996). In the broader debate on whether smallholders have benefited from globalization, the winners have been those that are vertically integrated with agribusinesses or are organized into farmer organizations for collective strength; have access to better infrastructure and credit; and have benefited from the role played by the public sector and others in capacity building (Narayanan and Gulati, 2002).

At another level, analysts have argued that increased domestic demand for staples, coupled with investments in productivity-enhancing technology and measures to reduce marketing costs, will have significant potential for poverty reduction and growth (Diao and Hazell, 2004). This perspective is in sharp contrast to the view that the growth potential of agriculture lies largely in non-staples production (Maxwell, 2004). At yet another level, the debate has centered on whether interventions in the post-reform era should focus on building market linkages for smallholder through supply chain development or whether broader interventions to build institutions for markets such as warehouse receipts systems and market information are more appropriate.

1.2 The Market Challenge Redefined

Broadly, despite the unprecedented economic prosperity that characterizes the beginning of the twenty-first century, the unleashing of markets has not necessarily lead to the expected spontaneous emergence of order and positive social outcomes. Witness the social and economic chaos following reforms in Russia and other transition economies, continued economic stagnation and persistent ethnic and civil strife following structural adjustment in Africa, the bursting of the Silicon Valley dot-com bubble, and the Japanese and East Asian financial crises following their “miracle.” This malaise with the *laissez-faire* or free market approach may be related to three critical issues.

First, there is the problem of creating markets where none previously existed, a problem which concerns the nature, speed, and scope of the marketization of formerly planned economies (Bromley, 1997). The view that markets are not external to society and can only function in the context of appropriate social arrangements invokes skepticism for the scope for rapid expansion of markets in developing and formerly planned economies (Platteau, 1994). Second, there is the problem of allocative impact. Meerman (1997) finds that for a large number of less developed countries, the impact of market reform on agricultural output has been small. In some instances, as in the former Soviet Union, liberalization has led to agricultural output contraction and resource outflow. Third, there are distributional consequences of market expansion. Opponents of globalization contend that the unleashing of market forces has disproportionately hurt the poor. Direct examination of the poverty impacts of agricultural reforms in sub-Saharan Africa, in terms of changes in producers’ terms of trade and changes in price volatility, reveal negative or at best mixed outcomes (Dercon, 2001; Sahn, Dorosh and Younger, 1997).

1.3 The New Agenda: From Getting Prices Right to Getting Markets Right

The fundamental market problem in the twenty-first century is not whether to free or restrict markets. It is to understand how markets function, what roles different institutions play in supporting market exchange, and how to design, transfer, and maintain these institutions. This implies that a shift in policy thinking is

required: from the perspective of “getting prices right,” which dominated the market liberalization agenda in the last two decades, to that of “getting markets right.” Getting prices right implied that market order will emerge spontaneously or endogenously and that markets will take care of themselves once incentives are aligned. Getting markets right implies that market order depends on an underlying set of institutions and supporting infrastructure, requiring guidance from a “visible hand.”

Beyond market liberalization, getting markets right also implies a concerted need and challenge for the public sector to engage with, and ultimately enhance, the role and performance of the private sector. Thus, the role of the state vis-à-vis private actors must be initially defined and re-defined as the market itself evolves.

This paper sets out to address this agenda, with a particular focus on the need to build institutions for markets, in a concerted fashion. In the following section, the paper addresses the task of getting markets right and within that, the role of institutions and why they matter. Section 3 then focuses more narrowly on analyzing institutions and defining them. This is followed by in-depth review of two key dimensions of institutions for markets, market coordination and contract enforcement, in Sections 4 and 5, respectively. This is followed by a discussion of approaches and interventions to building market institutions in Section 6, and conclusions in Section 7.

2. Understanding the Market: Visible and Invisible Hands

What is a market? Analysis of the market mechanism has always been central to economic inquiry, although the market itself is rarely defined in economics. Hibbard (1921) gave the famous definition that “two women and a goose make a market.” Neoclassical economic theory considers the market as an institution in and of itself (Stigler, 1971). However, little effort has been directed at understanding the conditions necessary for it to exist. Within an exogenously determined market, Adam Smith’s “invisible hand” directs individual behavior and leads to the Pareto optimal allocation of goods. This view of the market implies that, in a perfectly competitive world, price is all that is needed to coordinate activity. It also implies that the role of government is not to intervene in the regulation of the market, but to leave the market alone.

Alternatively, the market can be viewed as an intricate web of institutions and social arrangements, acting together for the same purpose, which evolve or are designed to facilitate the transfer of rights and titles to ownership in goods and services (Davidson and Weersink, 1998; Bakken, 1953). In this view, prices alone cannot coordinate economic activity and the origins and evolution of specific institutions matter, such as laws, regulations, and social norms, among others. Also, in this view, the role of government is not to leave the market alone but to participate in the design and creation of institutions. At the heart of the difference be-

tween these two definitions of the market is the Smithian perception that order emerges spontaneously from market processes themselves (Hayek, 1945), leading to the *laissez-faire* proposition that the outcome of “free” markets is beneficial both socially and allocatively.

Thus, the alternative to the “invisible hand” or free market view is one that considers explicitly the role of the complex set of institutions that jointly define the market and that determine its outcome. These institutions are those that define human interactions, including the organization of firms, community norms, moral codes, enforcement mechanisms, and formal rules. In this perspective, the analysis of the price as the sole coordinating mechanism is not valid, or is analogous to the study of “the circulation of blood without a body” (Coase, 1937).

2.1 The End of History?

Fukuyama (1992) called the remarkable convergence of political and economic thinking around liberal democracy and free markets in the late twentieth century the “end of History.” He did so following the Marxist-Hegelian tradition of history as a broad evolution of societies heading to a final goal. However, following this convergence, it is becoming clear that economic differences between countries, even as they become interlocked in the vast global economy, will be centered on the heightened significance of culture and norms, or “trust,” rather than ideology. Thus, while both Japan and the United States practice democracy and capitalism, Japanese firms adhere to the concept of loyalty within business networks, known as *keiretsu*, and are troubled by the litigiousness of American firms (Fukuyama, 1995). An increasing recognition that economic life is bound up in social life has shaped the view that “social capital,” defined as the connectedness of human beings, matters for economic performance (Coleman, 1990; Putnam, 1995; Knack and Keefer, 1997). Earlier, a similar perspective was advanced by Karl Polanyi (1957) and extended by Granovetter (1985) and others (Amselle, 1977; Meillassoux, 1971; Geertz et al., 1979) that market exchange is “embedded” in social relations and that the economy is an “instituted process.”

Market liberalization implies changing the way that markets are organized through changes in the presence and combination of institutions that define the market’s structure and ultimately define human interaction. It also implies changing the rules and incentives governing the conduct of individual institutions in the market (Kuyvenhoven et al., 2000). Despite the vast literature on the reform experiences and their impact, little attention has been given to the actual institutions that support market exchange (Palaskas and Harriss-White, 1993). Nor is there a clear understanding of how institutions emerge and evolve over time.

It is now well recognized that institutions matter. In his presidential address to the Royal Economic Society in 1986, Matthews declared that “the economics of institutions has become one of the liveliest areas of our discipline” (Matthews, 1986). Yet, much remains to be done in furthering our understanding of why and

how institutions matter and how they emerge. Despite the enormous progress in the study of institutions, “we are still very ignorant about institutions” (Williamson, 2000). The causes of ignorance are that institutions are very complex; that neoclassical economics has been largely dismissive of institutions; and that much of the institutional theory lacks scientific ambitions. With regard to the role of institutions in development, Bardhan (1989) notes that:

It is part of an institutional ritual in development economics, as in much of economic theory, to relegate all institutional matters into a “black”. The box is supposed to contain something vaguely important, but it does not usually receive more than a nodding, if somewhat intriguing, recognition in passing (preface).

With the increased recognition that institutions matter in a direct and fundamental way and considering the advances in both theory and empirical analysis, institutional issues can no longer be relegated to a black box.

2.2 Getting Markets Right

Privatization, institution building, and infrastructure development are complex tasks that need long-term investment and commitment. These types of reforms are not easy to implement given the short-term nature of policy-making. In addition, these changes are more difficult to incorporate in policy-adjustment lending programs of international donor organizations. In the case of sub-Saharan Africa, in particular, this means that the steps ahead for further reform in Africa will be more difficult to achieve and will require readjustment in government and donor behavior.

In practical terms, getting markets right suggests the following: building markets in which buyers and sellers are well coordinated, transaction costs are low, contracts are enforceable, risks are manageable, exchange can be impersonal, price volatility is dampened, and transactions are liquid and highly responsive to shifts in supply and demand. To achieve the above, efforts to transform the market must occur over a sustained period of time in which market development is progressively achieved.

Experience worldwide cautions against a quick fix solution; market adjustment requires a gradual alignment of incentives and behaviors within the context of institutions and even social norms. Moreover, these efforts require a balance between policy incentives, the broader infrastructural environment, and the development of appropriate market institutions. These can be considered the “3 I’s of market development”: Incentives, Infrastructure, and Institutions.

Looking more closely at the elements within the framework of the “3 I’s”, incentives involve the overall policy environment and the stability therein, the general investment climate, the macro-economic framework, as well as tax and trade policies. Infrastructure for markets is comprised of telecommunications, transport, storage, and logistics in terms of physical capacity as well as research, skills, and extension, in terms of technical capacity. While roads are often given the bulk

of attention in discussions of market failure, in fact, the wave of globalization suggests that not only are we in the midst of an information revolution but also of a logistics revolution, in which success in the market is ultimately determined by processes such as just-in-time delivery among others. Finally, market institutions, which have been perhaps most obviously neglected and whose role has been least understood in the post-reform era, concern market information, grades and standards, contract enforcement, the coordination of market actors, trade and producer associations, market regulation, industry wide forums for dialogue, and trade finance. While each of these dimensions imply a significant role for the state, the private sector – defined as the producers, traders, processors, and service providers such as in transport and storage – plays a pivotal role (Figure 5).

It should also be noted that there are significant interactions between these three dimensions. For example, in the case of transport, while it is common to perceive transportation to be a function of access to good quality roads, in fact, a large part of transport costs are related to the coordination of supply and demand in the transport market. Thus, in contexts where there is weak information regarding demand for transport and frequent delays in the system, costs tend to rise considerably as the costs are mainly covered by the “fronthaul” or first leg of the trip, as the “backhaul” or return trip is frequently under-utilized because of information gaps. Moreover, even with good roads and appropriate coordination, bad policies such as restrictive import policies or licensing or tax disincentives can still result in high transport costs and market failure if these policies result in collusion or thin transport service provision. Thus, the key challenge in market development is not to view these three elements in isolation but rather to approach them in an integrated or holistic manner.

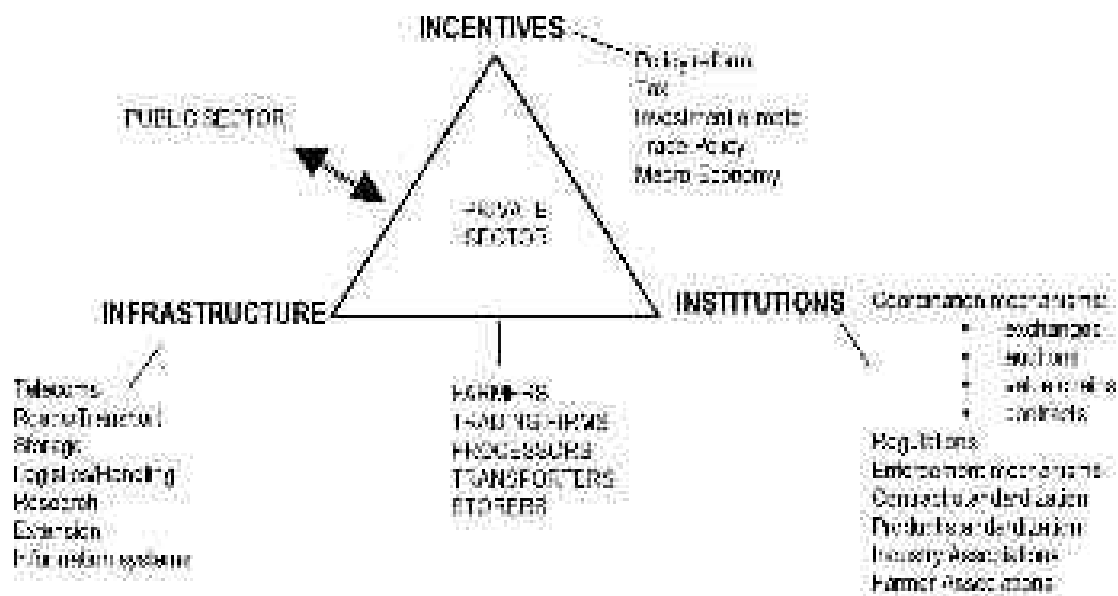
The three dimensions of market development are significantly inter-related and jointly affect market outcomes. This integrated approach also clearly delineates what are the public and private roles in the system and what the relations are between the public and private. The few successes of market reforms in Africa suggest that success depends on precisely adopting this integrated approach in which the public sector creates a space for private actors.

A major weakness of much of the structural adjustment-led market reform agenda was an over-emphasis on the removal of policy distortions and the redressing of policy incentives, at the expense of addressing issues related to the institutional and infrastructural context (Kherallah et al., 2002). Thus, the shift in focus from market reform to market development entails a serious effort to redress the major gaps in particular on market institutions as well as on infrastructure.

At the same time, efforts to reverse this earlier bias should not neglect the policy reform agenda that still remains. A number of policy issues are directly or indirectly linked to the commitment of the state in promoting a successful private sector and the relationship that the state seeks with the private sector. It has been fairly common in post-reform economies for the state to remain highly suspicious

of the private sector. The lack of trust between state and private sector has often resulted in policy reversals or reprisals against the private sector on the part of the state and speculative, rent-seeking, or risk-averse behaviors on the part of the private sector, with ensuing negative consequences for market performance.

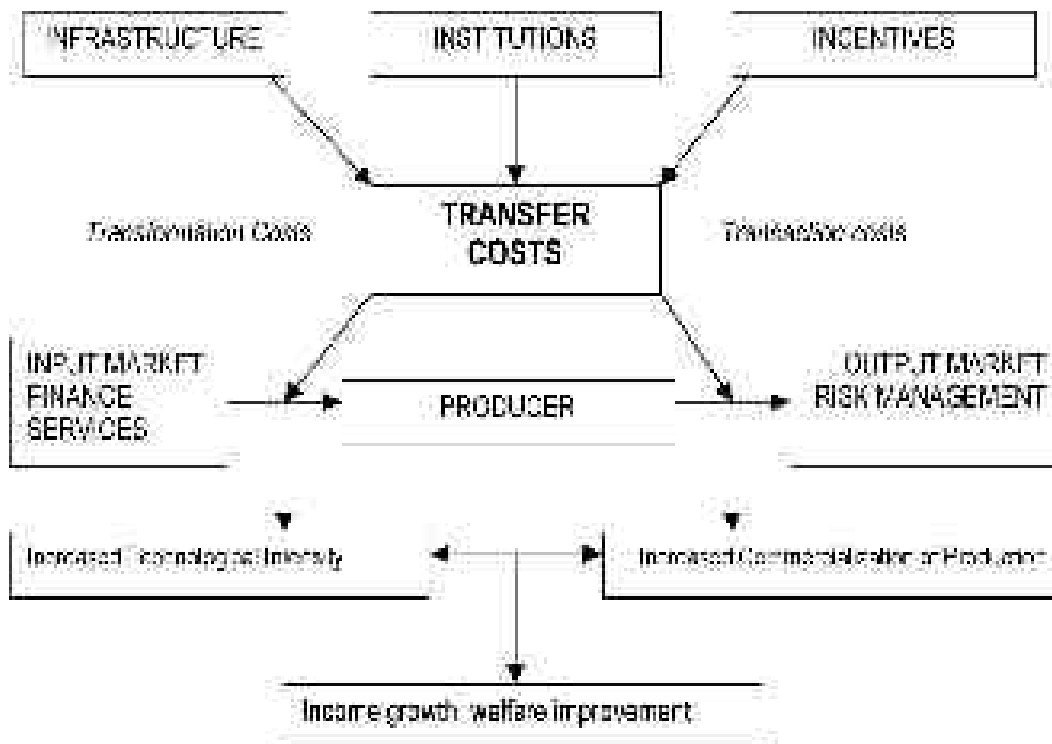
Figure 5: Integrated perspective on market development



2.3 How Markets Matter

The mechanism in which the three dimensions influence economic outcomes is highlighted in Figure 6, where it can be seen that the main impact of the 3 I's is on the level of transfer costs. In this case, transfer costs include both the transaction costs of coordinating market exchange costs (such as contract negotiation, search, monitoring, and enforcement costs) as well as the physical or transformation costs, associated with transport, storage, handling, etc. In turn, these transfer costs have an impact on the delivery of inputs and factors to the producer and the uptake of outputs from the producer. Thus, prohibitively high transfer costs result in missing markets, such as for rural credit or private fertilizer markets. Transfer costs represent a wedge, which can erode the competitiveness of particular markets and result in outcomes where there is no trade.

Figure 6: How Markets Matter to Agricultural Development



3. Analyzing Institutions for Markets

Broadly, North (1990) defines the structure that human beings impose on human interaction as institutions. The seminal work of Coase (1937, 1960) emphasized that one cannot come to grips with how economies perform without considering institutions and how they affect economic behavior, a view later extended and refined by Williamson (1985), who developed the theory that institutions emerge to minimize the costs of transacting between different actors. When these costs are high, they constrain the ability for human beings to interact and engage in economic activity. In their classic study of the historical growth and performance of nations, North and Thomas (1973) find that the evolution from personalized exchange to impersonal exchange, supported by institutions to enforce contracts, is central to growth.

Within the body of literature known as the New Institutional Economics (NIE), three distinct strands of thought have emerged. One approach sees institutions evolving to reduce transaction costs and views these institutions as the key to the performance of economies (Coase, 1937, 1960; Alchian and Demsetz, 1972; North, 1981; Williamson, 1985). The second strand has grown out of the theory of imperfect information and has adopted a more rigorous framework for analyzing institutions as substitutes for missing markets in an environment of pervasive risks, incomplete markets, information asymmetry, and moral hazard (Aker-

lof, 1980; Stiglitz, 1985). The third strand in NIE is that market exchange is often embedded in personal relationships (Geertz, 1968; Meillassoux, 1971; Granovetter, 1985). Trust and reputation are important aspects of business decisions, particularly when contracts are difficult to enforce legally and when market transactions require investment in assets that are only useful for this transaction (Kandori, 1992; Greif, 1993; Landa, 1997; Tadelis, 1997; Williamson, 1985; Fukuyama, 1995).

Understanding the role of institutions for market exchange must address all three of these roles or dimensions of institutions:

- to minimize transaction costs
- to redress missing markets, and
- to create or formalize social capital.

3.1 Defining Institutions for Market Exchange

While we start with the presumption that institutions matter, such a statement is only meaningful with a common understanding of institutions. What are institutions? Can they be identified with statutory laws, informal norms, established organizations, contracts, people's mindsets, or some combination of some or all of these? Different theorists use quite different definitions, with emphasis on different aspects. According to Nabli and Nugent (1989), some key differences among the various definitions concern: (i) the degree to which institutions and organizations coincide; (ii) their degree of formality; (iii) their creation at a specific time and place versus their evolution from diffuse sources; and (iv) their universality.

Using the analogy of the economic process as a game, Aoki (2001) distinguishes three distinct though related meanings: institutions as either the players in the game, the rules of the game, or the equilibrium strategies of the players in the game and proposes a fourth: institutions as self-enforcing systems of shared beliefs of players in the game. We will consider briefly each of these and suggest a unifying definition for the present purposes.

(1) *Institutions as the Players of the Game.* In the first view, in laymen's terms as well as for some economists, institutions refer to specific "players" or organizations such as industry associations, technical societies, courts, and government agencies (Nelson, 1994).

(2) *Institutions as the Rules of the Game (Exogenously-driven).* In the second view, North (1990) argues that institutions should be identified as the rules of the game, distinct from the players. Thus, institutions are "the rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction" (North, 1990).

These constraints can be informal (sanctions, taboos, customs, traditions, and codes of conduct) or formal (constitutions, laws, property rights). Over history, institutions have been devised to create order and reduce uncertainty in exchange (North, 1991). These constraints are necessary because there are costs of transacting associated with the lack of information or a great number of unknown market actors, making non-cooperation a possibility. In game theoretic terms, effective economic and political institutions raise the benefits of cooperation and increase the costs of defection (North, 1991). North makes a critical distinction between institutions and organizations. He distinguishes the rules from the players, noting that while the purpose of rules is to define the way the game is played, the purpose of the players is to win the game. He defines organizations as either political bodies (political parties, Senate, city council, regulatory agencies); economic bodies (firms, trade unions, cooperatives); social bodies (church, clubs, sport associations); and educational bodies (schools, universities), all as groups of individuals bound by some common purpose. Thus, in his view, the analysis of the strategies of individual players must be separated from the analysis of the underlying rules of the game.

Unlike Williamson (1985), whose transaction cost approach focuses on institutions as efficient solutions to organizational problems in a competitive framework, North's conceptualization of institutions is concerned with both failures and successes in evolving the necessary political and economic institutions to enforce the rules of the game and to induce productivity growth. North's historical analysis of institutional evolution of long distance trade in early modern Europe from the 11th to the 16th centuries highlights how the increasingly complex organization of markets was due to specific institutional innovations that reduced transaction costs. These innovations evolved from the interplay of two major economic forces: the economies of scale associated with growing trade volumes and the development of improved mechanisms to enforce contracts at lower costs. The state played a major role in this process. In explaining why early modern Europe's growth experience diverged from other regions, North suggests that the relationship between the basic institutional framework and institutional change matters and that there is path dependency in economic change. In North's view of institutional change, the existing rules of the game shape the incentives of players, ultimately generating effective demand for new rules in response to changes in relative prices. A shortcoming of this view is its failure to define who sets the original rules, to which players then react and which then evolve.

(3) *Institutions as Equilibrium Strategies of Players (Endogenously-determined rules).*

In contrast to North, whose definition of the rules of the game can be considered as exogenously-driven (both in the sense of origin as well as change through conscious third party design), a third view, defined as the "equilibrium of the game" notion of institutions, has been forwarded earlier by Schotter (1981), Sugden (1985), and more recently by Aoki (1995, 2000), among others. This view builds on game theory and evolutionary biology to develop

an evolutionary game approach, in which a convention of behavior establishes itself without third party enforcement or conscious design à la North. As a convention evolves, agents develop particular traits (perceptions, preferences, skills) under the pressure of evolutionary selection. Thus, a convention and associated individual traits co-evolve. Sugden (1985) argues that, in the Hume tradition, it is misleading to think of the law as the creation of government imposed on its citizens, but rather that the law reflects the codes of behavior that most individuals impose on themselves. Schotter (1981) considers that institutions are properties of equilibria of games and not properties of the descriptions of the games. Similarly, Uphoff (1986) states that institutions are complexes of norms of behavior that persist over time, by serving collectively valued purposes.

Regarding the question of the origin of an institution, the rules-of-the-game theorists tend to subscribe to the view that rulemaking is susceptible to conscious design by either legislators, mechanism design economists, etc. Among the equilibrium-of-the-game theorists, the evolutionary game approach subscribes to the view of an institution as emerging spontaneously. In the subgame perfect equilibrium approach, players are capable of deductive reasoning and thus select strategies that are mutually consistent and lead to the construction of an institution. However this approach fails to resolve how individual players can choose an appropriate equilibrium strategy before knowing the equilibrium.

(4) *Institutions as Self-Sustaining Systems of Shared Beliefs.* To overcome this latter problem, Aoki (2001) develops an alternative definition that enables a better understanding of the diversity of institutions and the process of institutional change. This approach views an institution as a “self-sustaining system of shared beliefs.” In contrast to the rules-of-the-game theorists, who view the rules as exogenously given, this approach views the rules of the game as determined endogenously through the strategic interaction of agents, held in the minds of agents, and thus self-sustaining. Shared beliefs are a summary representation, or compressed information, of an equilibrium, out of the many possible. As such, an institution is the product of long-term experiences of a society of boundedly rational and retrospective agents (Kreps, 1990). Agents making strategic choices on the basis of shared beliefs jointly reproduce the equilibrium state and thus the institution becomes self-sustaining and the information compressed in it becomes taken for granted. In this way, although endogenously created, the institution becomes objectified (Aoki, 2001).

3.2 A Unified Definition of Institutions for Market Exchange

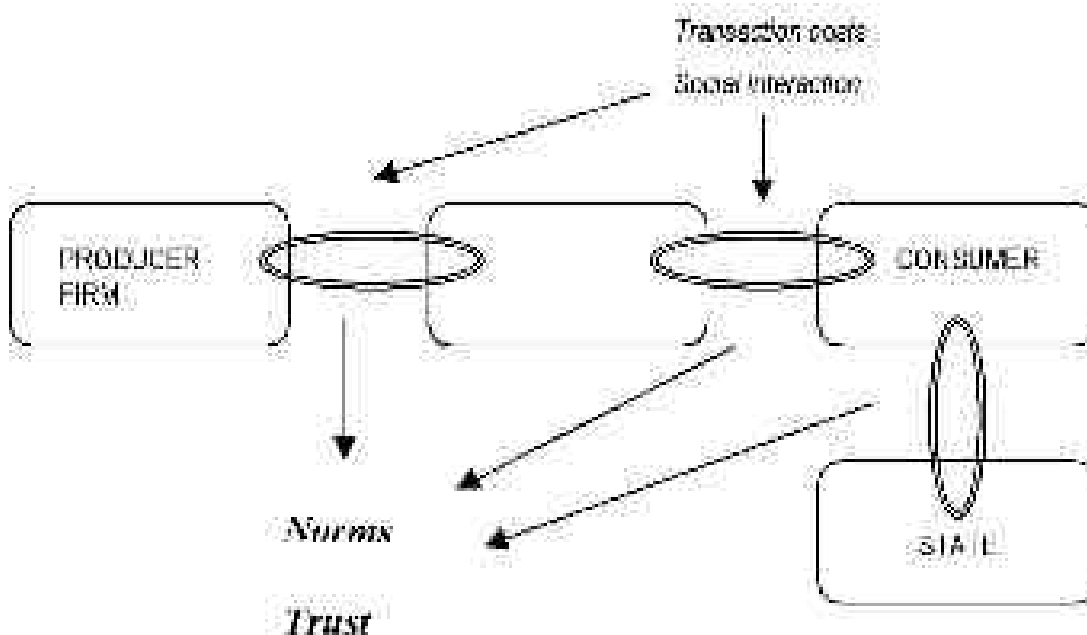
For the present purposes, institutions for markets are defined as a set of constraints – formal or informal, exogenously or endogenously determined – that govern the relations between individuals or groups in the exchange process. Following North, this definition clearly excludes organizations, such as trade unions, producer

groups, and government agencies. The set of institutions for market exchange includes: formal and informal contracts between individuals or groups; trading practices, codes of conduct, and social norms, such as repeated interaction, trust, and reciprocity; formal commercial laws and regulations that govern market relations; and institutional arrangements between actors such as vertically or horizontally integrated supply chains. This definition, although relatively broad, is specifically tied to a focus on the relations between human beings in the market, rather than focusing on the actors themselves or the market itself. Second, it is concerned with behavior rather than outcomes. Using the analogy of a chain, which links individuals and groups, institutions thus constitute the links between the various actors. That is, institutions are defined as the structure of relations between individuals within the chain (Figure 7). The set of institutions for market exchange includes:

- formal and informal contracts between individuals or groups;
- trading practices, codes of conduct, and social norms, such as repeated interaction, trust, and reciprocity;
- formal commercial laws and regulations that govern market relations; and
- institutional arrangements between actors such as vertically or horizontally integrated supply chains.

This analogy is particularly well suited to the analysis of markets, where the market literature has long elaborated the concept of the marketing chain. Analytical approaches comprises a body of work known as sub-sector analysis (Henderson, 1975; Marion, 1976, Mighell and Jones, 1963), the francophone tradition of the *filière*, or commodity chain, and a third approach which explicitly acknowledges the importance of human relations within marketing chains, and which is known as global commodity chain analysis (GCC), (Greif, 1994, Kaplinsky, 1999).

Figure 7: Institutions as links in the chain of market interactions



3.3 Understanding the Role of Market Institutions

In attempting to understand the role of market institutions, our first objective is to directly explain why and how institutions matter for markets and how these institutions emerge and evolve over time. The second objective is to perceive what role policy might play in the design of functioning markets in low-income countries, through the implementation of sound, empirically oriented institutional analysis.

In understanding the role of institutions for market exchange, we focus on two types of problems. The first is to understand the role and complexity of institutional arrangements and the second is concerned with the mechanism of institutional change over time (Aoki, 2001). The first problem can be viewed from two dimensions. The first dimension is that of coordination. Coordination is primarily viewed as an information problem, or more broadly, as a transaction cost problem. What are the sources and extent of transaction costs related to search, negotiation, monitoring, and enforcing contracts? How do transaction costs determine contractual choices? How do transaction costs determine the economic organization of the market and the types of hierarchies that exist? How can transaction costs be reduced? What would be the likely impact on market organization and on performance?

The second dimension concerns enforcement. How are interactions in the market, embodied in contracts, enforced? What are the informal and formal rules that define interaction? How are the rules enforced? What is the role of trust, community norms, morality, and social capital in enforcement? What is the motivation, or incentive-compatibility, of enforcement? What is the impact of breakdown or limitations in enforcement mechanisms on markets?

With regard to the problem of institutional emergence and change, where do the rules of the game come from? Does the current institutional arrangement represent an efficient outcome? If so, in the context of multiple equilibria, how can institutions be designed to achieve a higher Pareto-ranked equilibrium? How context-dependent are given institutions? When and why do institutions emerge spontaneously? When and how can institutions be transferred or externally created?

4. Coordination: The Problem of Economic Order

A fundamental concern of all societies is how the economy is organized, how market exchange is coordinated. Merchants emerge to buy goods from sellers and sell them to buyers; factories emerge to buy labor services and other factors of production and sell output to buyers. It is often said that Nobel-laureate Ronald Coase (1937) started a quiet revolution in economics when he asked one of the most celebrated questions in modern economics: Why does the firm emerge in the market economy? To extend this question: Why do we observe vertically inte-

grated firms for some goods and services and bazaar-type markets for others? Why do supply chains based on long-term relationships emerge in some arenas in contrast to anonymous, non-repeated transactions in others? Coase's answer was that there are costs of using the market mechanism, which may be reduced or eliminated by certain types of coordination in the market. Coase pointed to two kinds of costs: the costs of discovering what the relevant prices are and the cost that may be saved by making a single long-term contract for the supply of goods and services instead of short-term successive contracts.

At its core, then, the problem of economic order can be conceived as essentially a coordination problem, depending integrally on both information and on the nature of contracts. This fundamental concern for economic order has led to major historical debates, extending to the present in different guises, on the role of central planning versus the free market economy. The Austrian economist Ludwig von Mises in the 1920s and later Nobel-laureate Friedrich Hayek (1945) argued forcefully that it was precisely the complexity of the economy that rendered it beyond human comprehension and therefore unable to be perfectly planned, arguing that only by the competitive forces of the free-market regime could the decentralized elements of the economy be appropriately utilized. Thus, price signals and the pursuit of profit lead the vast and varied lines of activity to be self-coordinating.

How then to achieve a "self-coordinating" market order? On the one hand, information seems to be at the heart of the institutional problem of order. That is, the transmission of information on prices, quantities supplied, quantities demanded, actors and their actions, product quality and attributes, and processes is the key to market coordination. An important body of economic literature has focused on the problems of imperfect, asymmetric, or incomplete information, which in turn lead to decision-making with "bounded rationality" (Simon, 1982), missing markets and risk (Stiglitz, 1982; Akerlof, 1970), and high transaction costs (Williamson, 1981).

Market coordination for agricultural products also critically depends on the fundamental attributes of production, processing, and the market actors. Jaffee (1985) defines these attributes as the "techno-economic" attributes of agricultural goods. Building on this concept, it is possible to distinguish a typology of market coordination institutions based on the simple attributes of product homogeneity versus differentiation, value to volume, and number of buyers and sellers. Thus, for agricultural goods such as staple grains, which are relatively homogenous, have low value to volume (bulky), and have many sellers (small farmers) and many buyers (consumers), the appropriate coordination mechanism can be a form of commodity exchange in which prices for homogenous goods are discovered through a competitive process, and many buyers and sellers interact quasi-anonymously. In the case of traditional agricultural exports, such as tree and beverage crops (coffee, cotton, tea), the product may remain relatively bulky and homogenous, but the market structure is different in that many sellers interface

with a relatively small number of buyers, such as exporters. In this case, the ultimate coordination may take the form of an auction, where prices are discovered efficiently through competitive bidding between the few buyers. Finally, in the case of highly differentiated, high value-to-volume, non-traditional products such as horticulture, dairy, or other high-value products, the ultimate coordination mechanism might emerge as a tightly coordinated or integrated supply chain linking a small number of sellers with a small number or single buyer. This typology is summarized in Table 5.

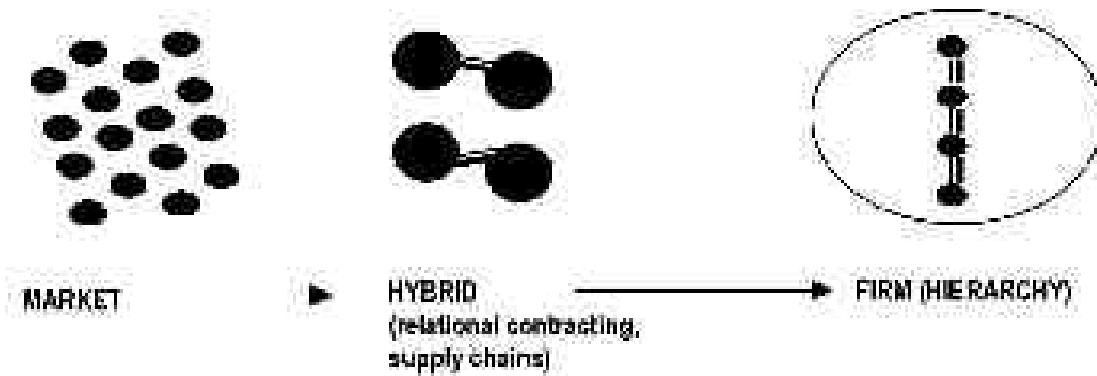
Table 5: Typology of agricultural market coordination institutions

Product	Homogeneity	Value to Volume	Market Structure	Coordination
<i>Staples (domestic foodgrains)</i>	High	Low	Many sellers Many buyers	Commodity exchange
<i>Traditional exports (coffee, tea, cotton, etc)</i>	High	Low	Many sellers Few buyers	Auction
<i>Non-traditional exports (flowers, fruits and vegetables, live- stock products)</i>	Low	High	Few sellers Few buyers	Integrated supply chains

4.1 Transaction cost approach

A coherent theory of economic organization that draws these strands together did not emerge until Williamson's (1975) seminal work on *Markets and Hierarchies*, which initiated the body of work known as transaction cost economics (TCE). Of the two types of costs raised by Coase, TCE was more focused on the coordination costs. Thus, in the TCE approach, market structure responds to the existence and extent of transaction costs (Figure 8).

A separate literature that also emerged in this period focused on the first type of costs, the cost of information. While related to the transaction cost approach, this literature views institutions as substitutes for missing markets and provides a rigorous framework that considers an environment of pervasive risks, incomplete markets, information asymmetry, and moral hazard (Bardhan, 1989). Pioneering contributions in this literature were based on observation of problems encountered in low-income countries: Akerlof's (1970) lemons principle, Stiglitz's (1974) work on screening, and the extensive literature on sharecropping (Cheung, 1968; Bell, 1977; Braverman and Stiglitz, 1982; Braverman and Srinivasan, 1981; inter alia), which evolved into contractual choice theory and merged with principal-agent theory (Clague, 1997).



Asset specificity, Uncertainty, Complexity, Frequency

The foundation for analyzing organization and governance in transaction cost terms is Coase's insight that the costs of reaching, modifying, and implementing agreements restrain the potential gains from trade. Thus, in a world of transaction costs, the relative merits of different organizational forms depend on a comparison of the costs of transacting under each (Masten, 1996). Arrow (1969) defined transaction costs as the "costs of running the economic system." These transaction costs are distinguished as *ex ante* and *ex post*—the first include those of drafting, negotiating and monitoring an agreement, while the latter include the cost of maladaptation, haggling, setup and running associated with governance, and bonding costs to securing commitment (Williamson, 1985). Moreover, unlike market price, transaction costs are unique to each agent or firm and are related to the process of exchange itself.

Transaction costs arise because individuals are limited in their ability to plan for the future and in their capacity to process the complexity and unpredictability of the world. Second, even if perfect planning were possible, it is hard to negotiate about these plans due to the difficulty of developing a common language to describe actions and states of the world (Hart, 1995). Third, assuming that parties could plan and negotiate, it is frequently difficult for them to communicate their plans in such a way that a third party could enforce them. As developed by Williamson (1975, 1985, 1995), Klein et al. (1978), Grossman and Hart (1986) and Hart and Moore (1990), transaction cost economics maintains that the implication of positive transaction costs is that contracts are typically incomplete. Because contracts are incomplete, parties who invest in a relationship-specific asset expose themselves to the hazard that, if circumstances change, their trading partners may try to expropriate the rents accruing to specific assets, otherwise known as the "hold-up problem" (Shelanski and Klein, 1995). To get around this, firms may choose to integrate vertically. More generally, a variety of alternative "governance structures" or institutional arrangements of economic organization exist and are employed, depending on the characteristics of the relationship. The working hypothesis of transaction cost economics is, thus, that economic organization is

an effort to align transactions, which have different attributes, with governance structures, with different costs and competencies in a cost-economizing way (Williamson, 1991).

Box 1: Transaction cost analysis of horticultural exports in Kenya

The well-known work of Jaffee (1985) attempts to apply concepts from transaction costs economics to the analysis of organizational forms of the private agribusiness industry in Kenya. The study considers that different degrees of asset specificity and uncertainty will determine the choice among possible organizational arrangements: spot market exchange, long-term contracts, and vertical integration.

To operationalize these concepts in the empirical analysis, proxy indicators are developed. Thus, for asset specificity, the indicators are: the length of the crop production cycle, the scope for scale economies in processing and post-harvest handling, and the degree of specialization of material production inputs and technical knowledge. The indicators for uncertainty are: the degree or rate of perishability, the degree of specificity in quality that is required, and the degree of specificity in timing of harvests and deliveries.

Using these indicators, the study analyzes the conditions of asset specificity and uncertainty for each of Kenya's most important horticultural products in order to determine the expected institutional arrangement for linking producers and exporters/processors (Table 6). The study finds that the dominant institutional arrangement for coordination is that of long-term contracts and vertical integration, rather than spot market exchange.

Table 6: Asset-specificity, Uncertainty, and Modes of Coordination for Kenya's Major Horticultural Crops

		Pineapple	Mango fresh mkt	French beans -processing	French beans -processing	Carnation
<i>Asset specificity</i>	Production cycle	Long	Long	Short	Short	Short
	Inputs/technical specificity	Med	Low	Low	Low	Med
	Scale economies	High	Med	Low	Med	Med
<i>Uncertainty</i>	Perishability	Low	Med	Med	Med	Med
	Quality specificity	High	Med	Med	High	High
	Timing specificity	Med	Low	Med	Med	Med
	Mode of coordination	Vertical Integration	Long-term contract	Spot/Long -Term Cont.	Long-term contract	Long-term contract

Source: Jaffee, 1985

4.2 Global commodity chain approach

Another approach is known as global commodity chain (GCC) analysis. This approach focuses on the linkages and co-ordination between economic agents in a value chain and how lead firms are able to shape the value chain to their advantage. Global commodity chain (GCC) analysis derives from the work of Gereffi and Korzeniewicz (1994), which has its origins in dependency theory (Wallerstein, 1974; Hopkins and Wallerstein, 1994). Hopkins and Wallerstein (1994) define a global commodity chain as “a network of labor and production processes whose end result is a finished commodity.” Work by Gereffi and his collaborators has mainly focused on industrial commodity chains and the emergence of a global manufacturing system in which economic integration goes beyond trade in raw material to encompass the many activities along the chain.

While extending the concept of value chains, the GCC approach differs from related concepts such as business systems or value chains in three ways: 1) the GCC approach is explicitly international in its focus, 2) it focuses on power and power shifts over time, and 3) it views the coordination of the entire chain as a key source of competitive advantage (Gereffi, 2001). Like the NIE approach, GCC analysis focuses on the importance of coordination and the relationships and organization of relations. However, its approach differs from NIE theory, which is more narrowly focused on efficiency-improving institutions and is thus devoid of considerations of power (Bardhan, 1989).

4.3 Producer- and buyer-driven value chains

A key distinction made by this literature is the difference between producer-driven and buyer-driven global commodity chains (Gereffi, 1994; 1999). Producer-driven commodity chains are those with large-scale economies and heavy investment, and thus high barriers to entry, in which large, transnational manufacturers play the central role in coordinating production networks (including backward and forward linkages). Producer-driven chains are characterized by capital and technology-intensive industries (automobiles, aircraft, semiconductors). Profitability is greatest in the relatively concentrated segments characterized by high barriers to entry. Thus, manufacturers in producer-driven chains are the key economic agents not only in terms of their profitability but also in their ability to control backward linkages to raw material suppliers and forward linkages to distribution and retailing. Lead firms usually belong to global oligopolies.

In contrast, buyer-driven commodity chains refer to industries with low barriers to entry in production, in which large retailers, marketers, and branded manufacturers play the key roles in setting up decentralized production networks in a variety of exporting countries. This pattern is more prevalent in labor-intensive industries. In buyer-driven chains, profits derive not from scale, volume, or technological differences, but from the unique combinations of design, marketing, and financial services. Retailers, designers, and marketers act as strategic brokers linking overseas producers and traders with evolving product niches in the main consumer markets (Gereffi, 1994). While production has low barriers to entry and

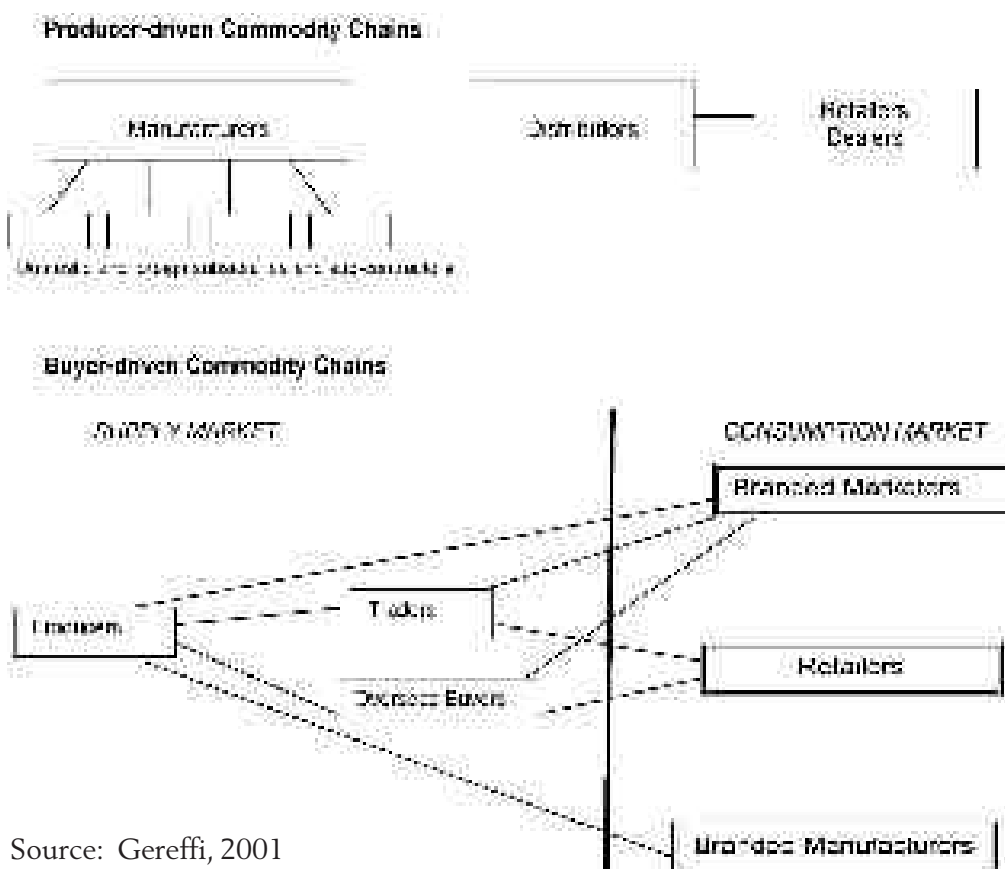
is relatively competitive, the companies that develop and sell brand-name products exert control over how, when, and where manufacturing will take place and how much profit accrues at each stage of the chain (Gereffi, 2001). The difference between these two types of chains is illustrated in Figure 9.

4.4 Concept of power

Another important aspect of the GCC approach is its inclusion of power, which is seen not only as the effect of barriers to entry, but also as the effect of organizational changes and supply chain management by leading firms (Raikes et al., 2000). However, power is not defined formally in GCC analysis and is used in conjunction with high profit. Following the dependency approach of Hopkins and Wallerstein, high-profit sections of the chain are “core-like” while low-profit sections are “periphery-like.” This gives rise to circularity in reasoning in that profits are explained by power, which itself is defined by high profits.

What is critical to the understanding of power in the GCC approach is the role of leading firms in strategic decisionmaking within the geographically-dispersed supply networks or commodity chains (Dolan et al., 1999). Moreover, the concept of power is dynamic in the

Figure 9: Structure of Producer-driven and Buyer-driven Global Commodity Chains



Source: Gereffi, 2001

GCC approach in that barriers to entry and rents are themselves constantly evolving, as they are eroded by the process of competition (Kaplinsky, 2001).

5. Contract Enforcement: Trading in Promises

Market exchange is fundamentally the voluntary exchange of private ownership rights over goods and services by individuals. Thus, it is important to recognize all market transactions as a form of contract – be it for the transfer of goods, credit, labor – with mutual obligations for both transacting parties. Contracts need not be formal or even explicit. However, because of the opportunistic nature of human beings, any form of contract is only as good as the belief that it can be enforced (Fafchamps, 2004). This point is central to the analysis of market institutions and at the heart of the notions put forward

Box 2: Application of GCC analysis to African horticultural exports

International trade in fresh vegetables has many of the characteristics of a buyer-driven global commodity chain. Trade between Kenya and the UK has grown rapidly in the past two decades. This trade has been accompanied by a total restructuring of the way in which trade was conducted Dolan et al. (1999) demonstrates that loose trading relationships in wholesale markets were replaced by tightly structured supply chains. Important elements of this transformation were the development of year-round supply, the expansion of products, and the emergence of sophisticated “cool chains.” The Kenya-UK trade is not dominated by transnational corporations but rather on networks of Kenya-based producer-exporters, UK-based medium-sized importers, and large UK retailers. The dominant actors in the governance of the global chain are these large retailers in the UK.

The transformation from wholesale markets to value chains in the 1990s was driven by several factors. UK supermarkets and major retail chains greatly increased their share of total fresh vegetable sales, from 44 percent in 1992 to 76 percent in 1997. Second, the supermarkets by-passed the wholesale markets and worked directly with importers. Third, there was a shift to greater product variety, product innovation, and increasing processing and packaging. Fourth, traceability of products was established, with monitoring and audit regimes (Dolan et al., 1999). The critical driver for increased process control was the change in the regulatory environment. The 1990 UK Food Safety Act required that retailers demonstrate “due diligence” in the manufacture, transport, storage, and preparation of food. In 1993, the EU introduced the harmonization of the maximum pesticide residue levels (MRLs). In addition, consumer concerns about labor rights prompted supermarkets to develop fairly tight standards.

Other key changes included the establishment of logistics parameters by the UK supermarkets, which included strict specifications for post-harvest cooling and storage on farm to packing and airport handling conditions, and finally to processing and cooling at the UK importers level. The supermarkets developed systems of planning crop production with importers and exporters, involving annual supply programs and weekly or daily monitoring.

In turn, the product and process parameters established by UK supermarkets forced exporters and producers to acquire new skills and capabilities to retain their UK business. The need for capital and technical capacity drove many small exporters out of the Kenyan export market, leading to the top seven firms controlling over 75 percent of all exports by the end of 1990s. It also led to the exclusion of smallholders from the trade and the shift to large farms controlled or owned by exporters (Dolan and Humphrey, 2000). Since 2000, the value chain continues to evolve with the move to category management. Products are grouped into categories and, within each category, the value chain is consolidated and its management is transferred from the supermarket to the “category manager.”

The key insights from this analysis are that the requirements of the UK supermarkets act as effective barriers to entry to participation in the chain by small exporters and small scale producers. For those that do participate, the rewards are considerable, involving increasing amounts of value-added activities such as chopped, washed, and packaged products with labeling and bar coding. These activities generate employment in the horticulture industry and the impact of this industry on poverty alleviation is clear (McCulloch and Ota, 2002).

by North (1990) and Williamson (1985) regarding transaction costs and their role in shaping institutions. We start with the premise that markets cannot exist without defined and protected property rights over goods and services. Even where property rights are defined and protected, there is room for cheating in the exchange process itself.

The seminal work of Stiglitz (1985) suggests that all economies are subject to information asymmetries, which generate moral hazard and adverse selection problems. Information asymmetry further generates contract enforcement problems because compliance of contracts becomes hard to verify by external agents, such as the courts (Fafchamps, 2005). Thus, the presence of information asymmetry along with opportunistic behavior implies that institutions must and do emerge to enable contract enforcement in the market, without which market exchange cannot take place. These various institutions are the subject of this chapter.

If opportunities to exchange were limited to individuals directly bartering their own goods within their own community where enforcement is more likely, the gains from exchange for economies would remain modest. North and Thomas (1973) conclude in their seminal work on the economic growth of nations that the transition from personalized to impersonal exchange is the key to the performance of economies. Money and merchants emerge as intermediaries and facilitate the expansion of exchange beyond closed communities. However, in order to realize the gains from market exchange, the economic rules of the game must be specified that ensure the enforcement of private ownership rights. Critical questions are: How do trading individuals establish trust? Is a buyer’s promise to pay at a future date reliable? Will a seller’s promise to deliver certain goods at a

certain date in a certain quantity and a certain quality be kept? How can the buyer be sure that the goods are not “lemons” (Akerlof, 1970)?

It is important to develop a thorough understanding of the various institutions that have emerged to enable contract enforcement and to understanding the conditions under which particular institutions emerge. To do so, we will not be limited to the study of formal contracts, but will consider all agreements binding the transfer of goods and services, be they legally bound or informal, implicit or explicit. Nor will we be solely concerned with formal enforcement institutions such as rules and laws, but will consider all forms of enforcement means such as trust, guilt, reputation, repeated interaction, joint sanctioning in communities, *inter alia*.

We will thus address enforcement from a broad, multi-disciplinary approach, drawing on law and economics, contract and contractual choice theory, theory of property rights, legal anthropology, social capital and trust theory, sociological approaches to community norms and generalized morality, and game theoretic approaches to incentive compatibility and self-enforcing strategies. This approach to understanding the market institutions for enforcement thus entails a broad view across a range of disciplines and concepts, where it can be seen that information asymmetry and opportunistic behavior lead to enforcement-related costs which are minimized through a broad range of enforcement institutions.

Thus, in response to information asymmetry and opportunism which act as determinants of transaction costs related to enforcement, various institutions can lower these costs, if they are structured in an incentive-compatible manner, if actors exhibit dynamic strategic behavior, and where the past or history matters. This then is a simple construct for framing the analysis of which enforcement institutions emerge when and how, the subject of the remainder of this chapter. At this stage, we note that enforcement institutions can and do span across the range of private actors, collective actors, and the state. Moreover, this process, which is inherently dynamic, matters enormously for development and growth. According to North (1990):

The inability of societies to develop effective, low-cost enforcement of contracts is the most important source of both historical stagnation and contemporary underdevelopment in the third world. (North, 1990)

Finally, it is also important to recognize that, at the same time, information asymmetries and asset specificity can lead to other, non-enforcement based, transaction costs such as those related to search and bargaining, that can give rise to coordination failure, rather than contract failure, which are treated in the next chapter. However, often the same institutions can redress both contract and coordination failure.

5.1 The Contracts Problem in African Agricultural Trade

In many developing economies in transition in sub-Saharan Africa and elsewhere, traders in liberalized agricultural markets, particularly for foodgrains, operate in a context in which prices are not publicly announced, goods are highly differen-

tiated with no formal standardization and classification system, contracts are oral and non-standardized, there is little inspection or certification, and virtually no recourse to legal means of contract enforcement (Gabre-Madhin, 2001; Fafchamps and Gabre-Madhin, 2002). These constraints cause both producers and traders to be highly vulnerable to being cheated with respect to market prices, qualities and quantities of the delivered good, as well as other contractual terms such as the timing of delivery, and product spoilage or loss during transport, *inter alia*.

Much like grain merchants in the mid-to-late 19th century American Midwest, grain traders in Africa can, and do, often cheat their partners by delivering a lower quality of product than was discussed at the time of sale. Since there are no official inspections of grain, a trader who contacts a partner by telephone is forced to take the partner's word at face value. Furthermore, grain quality can deteriorate in the course of storage or transport to the buyer. Traders can deceive partners by misquoting or omitting information on any of the above parameters at the time of the oral agreement of the grain price. Other opportunities for fraud are presented by the lack of standardized bags and the practice of cheating on the weights of traded goods. The commitment problem is also a function of the point at which ownership of grain is transferred between partners. When a seller retains ownership, and concomitant risk, for a shipment of grain until it reaches the final destination, the trader is highly vulnerable to renegeing on the buyer's part. Similarly, if the buyer takes ownership of a load of grain at the seller's venue, the buyer is highly vulnerable to fraudulent representation of the grain or damage during transport.

Box 3: Contract Failure in Agricultural Trade in Malawi and Benin

In an extensive survey of traders in Malawi and Benin, two countries with a contrasting history of private commercial exchange, agricultural commodity traders in both countries reported a high incidence of contractual non-performance, by up to 41 percent of traders in Malawi and up to 12 percent in Benin (Table 7). In Benin, where trading networks are more extensive and traders have a longer tradition of commerce, traders only report a handful of cases of bad quality, disagreement over measures, or *ex post* price renegotiation with suppliers. In contrast, Malawian traders report close to 200 such occurrences per year—roughly 6 per cent of purchases. For sales contracts, the frequency of payment problems is again much higher in Malawi than in Benin. Malawian traders are also much more likely to mention efforts by clients to renegotiate prices *ex post*. One means of containing the failure of contracts is through reputation effects. The fear of losing one's reputation *vis-à-vis* others in the market appears to be a deterrent to non-payment. Thus, the majority of traders in both countries state that other suppliers would get to know if a client fails to pay (Table 7).

Table 7: Contract Enforcement and Commercial Disputes in Benin and Malawi

	Benin		Malawi	
	Mean	Std. dev	Mean	Std. dev
<i>With suppliers:</i>				
Bad quality	3%		41%	
Disagreement over measuring	7%		35%	
Renegotiate price	12%		25%	
Cases of bad quality per year	0.3	2.8	63.9	340.9
Cases of measuring dispute per year	2.3	12.4	99.5	410.9
Cases of price renegotiation per year	1.6	6.0	45.7	217.5
Place orders	6%		32%	
Proportion of purchases on order	1.2	6.4	6.3	12.7
Number suppliers from whom order	0.0	0.4	0.7	3.9
Late delivery	18%		41%	
Partial delivery	20%		31%	
No delivery	16%		27%	
Cases of late delivery per year	5.0	20.8	37.5	197.5
Cases of partial delivery per year	3.1	9.3	19.0	57.7
Cases of no delivery per year	0.3	0.8	31.3	148.0
Number of purchases per year (*)	10	14	3345	12315
<i>With clients:</i>				
Late payment	24%		42%	
Partial payment	21%		34%	
No payment	20%		25%	
Renegotiate price	5%		20%	
Cases of late payment per year	10.8	34.1	15.2	36.5
Cases of partial payment per year	9.8	62.2	14.9	71.8
Cases of no payment per year	0.9	3.4	7.1	62.4
Cases of price renegotiation per year	0.4	2.1	116.0	506.7
Number clients who order	0.1	0.6	0.5	1.6
Number of sales	3102	4433	7898	9140
Others know non payment	53%		70%	
People dealing with debt collection	1.1	1.0	0.7	0.6

(*) number of purchases with order for Benin.

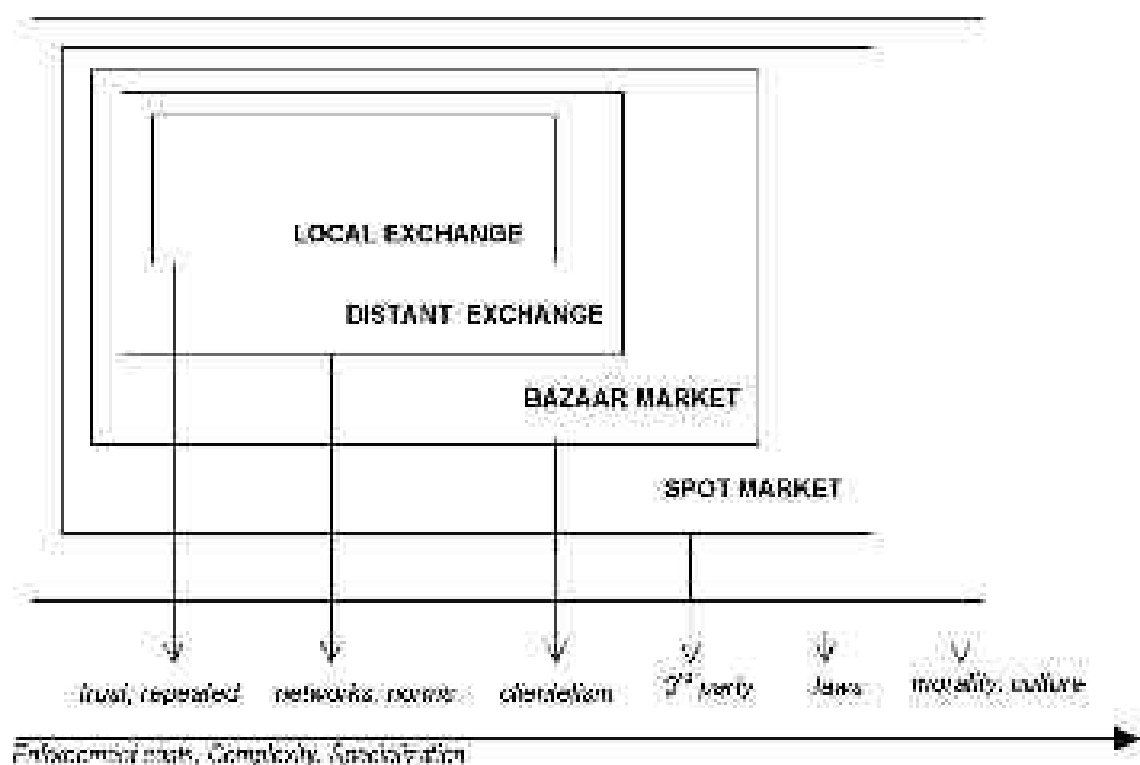
Source: Fafchamps and Gabre-Madhin, 2001

5.2 Markets and Growth along the Enforcement Continuum

Economic history over time can be seen as a series of staged stories (North, 1991). The earliest economies constitute local exchange within a village. Gradually trade expands, beyond the village, beyond the region, and eventually to much of the world. Each stage involves increasing specialization and division of labor and more productive technology. When trade is local to the village, informal constraints

govern exchange and the costs of transacting are low. As trade expands across distance and across time, transaction costs related to monitoring and enforcement increase sharply and the dense social network of the village needs to be replaced by enforcement by the state. In societies in which the expansion of the market has brought about more specialized producers, economies of scale, and specialized merchants, North (1991) argues that effective, impersonal contract enforcement is required because personal ties and informal constraints are no longer effective. Thus market institutions aimed at contract enforcement evolve along the spectrum from highly personalized to highly impersonalized exchange (Figure 10).

Figure 10. Enforcement and Market Exchange Spectrum



Communities and markets can be considered alternative modes of governing transactions (Greif, 1999). A long tradition in economic development and economic history considers the former to be inferior since it entails personalized exchange and limited division of labor. The transformation from community-based to market-based governance requires a transition from contract enforcement based on repeated relations and personal ties within a community to formal, state-mandated legal contract enforcement. This view is largely based on the understanding of market expansion in pre-modern Europe. North (1991) invokes the

Western experience in arguing that a legal system administered by the state is a necessary condition for an advanced division of labor and a market economy. Earlier, Weber (1927) argued that for the European capitalistic form of industrial organization to emerge, it must be able to depend upon “calculable adjudication and administration of the law” (p. 277).

In recent years, however, it has been recognized that even in modern, developed economies, contract enforcement based on personal and repeated relations is important for economic efficiency, such as the Jewish diamond merchants in New York (Richman, 2005). It is important because even impartial legal enforcement entails transaction costs due to asymmetric information, incomplete contracts, and verification costs by the court. Within communities, informal enforcement mechanisms may economize on these costs. Greif (1999) argues that, rather than considering communities and markets as substitute forms of governance, they can be considered complementary. The emergence of markets can crucially depend on the existence of appropriate community structures rather than impartial courts. He demonstrates in his analysis of market expansion in pre-modern Europe during the late medieval commercial revolution (between the 11th and 14th centuries) that a particular system of inter-community enforcement enabled impersonal exchange despite the absence of an impartial legal system. In the modern world, there are numerous examples of pervasive business networks that preclude the use of formal legal contracts. The *guanxi* in Taiwan, *chaebol* in Korea, *keiretsu* in Japan are business networks rooted in a deep tradition of personalized relations and reciprocal commitments (Platteau, 2000; Fukuyama, 1995).

5.3 Private versus Public Ordering of Enforcement

With regard to third party enforcement, a significant body of legal literature (which is often referred to as ‘private ordering’) examines connectivity regulation by parties other than government: rules, norms and institutions that are self-imposed by private parties to govern their behavior and transactions. Stuart Macaulay’s seminal work in this field observed that few contractual disputes are litigated, and most are settled without resorting to government-enforced laws (Macaulay, 1963).

Much of the research following Macaulay’s observation on opting out of the governmental legal system examined bilateral, relationship-based transacting, in which reputational investments in the relationship serve as collateral against opportunism, including Geertz (1978) and Belshaw (1965) who noted that traders in traditional markets tend to personalize their exchange relations to mitigate contractual uncertainty (i.e., opportunism). Richard Posner (1980) pointed to a similar pattern of “barter friendships” within primitive societies, which oblige the parties to similar standards of loyalty as they owe their kinsmen. Such a status and its attached obligations serve to mitigate opportunism despite the absence of public enforcement Janet Landa expanded Geertz’s and Posner’s observations

by considering a wider, network relationship, which she identified as an “ethnically homogenous middleman group” (Landa, 1981). This group facilitates exchanges where government enforcement of law is deficient (and therefore the certainty of abiding to contracts is lacking), by taking advantage of the high barriers to entry into an ethnic social group (and therefore the need to stay on good terms with one’s existing ethnic group).

As we move down the spectrum to more formal institutions, McMillan and Woodruff (2000) point to the role of private-order organizations in coordinating responses to opportunism while Bernstein (1992) examines mechanisms, such as arbitration and the maintenance of a common culture, by which trade associations, diamond exchanges, and other trading networks enforce their private legal systems.

In the following sections, we consider various contract enforcement mechanisms and the conditions under which they become self-enforcing. We distinguish between private and public-order enforcement mechanisms, including third parties. Because private third parties are not neutral and exogenous, it becomes important to consider how the rules for the third party’s actions are incentive-compatible in order to achieve a stable governance mechanism. However, there are important limitations of endogenous, self-enforcing mechanisms for achieving market order (Platteau, 2000). Thus, we also consider public-order third-party governance, such as the rule of law and the state. Thus, in the following sub-sections, we will review private-order enforcement mechanisms such as personal trust, community norms among traders, clientelism, network-based exchange, cultural beliefs and self-enforcing contracts, reputation effects, private third parties, and morality, as well as public-order enforcement mechanisms. Before doing so, we first consider a typology of contract enforcement institutions, particularly in the context of African agricultural trade.

5.4 A Typology of Contract Enforcement Institutions in African Agriculture

In the African context, several key features of the marketing system are important for understanding the evolution of different enforcement institutions. First, agricultural producers are generally small and geographically dispersed. This gives rise to thin markets with dispersed buyers (traders), operating at low levels of working capital, buying in small lots (Statz et al., 1989; Gabre-Madhin, 2001; Morris and Newman, 1989). With generally small market transactions undertaken by small-scale trading firms, neither small firms nor small-scale farmers have seizeable assets in the event of contract failure, making the threat of court action non-viable. On the purchase side, most domestic agricultural markets in Africa are characterized by the marked absence of large processors and therefore a much greater proportion of small buyers, made up of traders, retailers, and consumers themselves. So domestic foodgrain markets in Africa can be characterized as markets with dispersed small producers, many small trading firms, and many buyers. The overwhelming prevalence and persistence of small firms in domestic markets is somewhat a puzzle, perhaps explained by diseconomies of scale in mar-

keting (Fafchamps et al., 2005). The picture changes somewhat in the case of agricultural exports, both traditional mainly tree crops, and the case of non-traditional, high-value, products. In the case of traditional export crops, such as coffee, cotton, tobacco, among others, smallscale producers still persist but the buyers are often a small number of large exporting firms, or a government monopsony. Export certification and financing requirements often create a single channel at the border. In the case of non-traditional high-value exports, where logistical and process requirements are considerably greater, small-scale producers and large exporters are much more tightly linked into contractual arrangements within supply chains. In each of these three types of commodities, different enforcement mechanisms may emerge in response to the differences in the market arrangement.

Thus, because most market transactions are outside of the reach of the formal legal system, trading practices evolve to minimize the potential for contract failure, such as immediate cash sales rather than long-distance orders, supplier credit, forward contracting, etc. (Fafchamps and Minten, 2001; Gabre-Madhin and Negassa, 2004).

There are also features of the agricultural product and production process that matter. In the case of foodgrains, varieties produced are largely indigenous, implying a large number of local varieties and the absence of grades and standards. Moreover, agricultural commodities are largely unprocessed and come to market with highly uneven qualities. Not only are products not standard, but it is also difficult to screen honest and dishonest market actors because there are no viable business registry or certification systems. In the case of both traditional and non-traditional exports, product standard requirements are much more stringent and enforcement mechanisms are more developed. However, for all of the types of products and markets, these constraints lead to significant opportunities for cheating and for contract failure. Without viable enforcement, the prospects for expanded market exchange remain dim, and markets remain within what Fafchamps and Minten (2001) consider a “flea market economy,” that is, markets with no placement of orders across time or distance, no credit, no warranty, no check-based payments, essentially cash-and-carry markets with inspection, delivery, and cash payment on the spot.

A typology of contract enforcement which accounts for market and product attributes might look like the following. In the absence of costless legal enforcement, personal trust often prevails where screening costs are high and markets such as those with large numbers of buyers and sellers create significant opportunities for cheating. However, where does trust come from? Trust is based on successful repeated exchange, leading to what is considered relationship-based or relational contracting (Hayami and Kikuchi, 1981). Thus, trust-based exchange based on repeated interaction prevails where collective action opportunities are weak. By definition, this type of enforcement limits the scope for market expan-

sion given it is limited by individual repeated exchange among parties who know each other. This type of enforcement may dominate in markets in which product quality is unknown, with many dispersed buyers and sellers, such as the case of localized foodgrain markets in Africa.

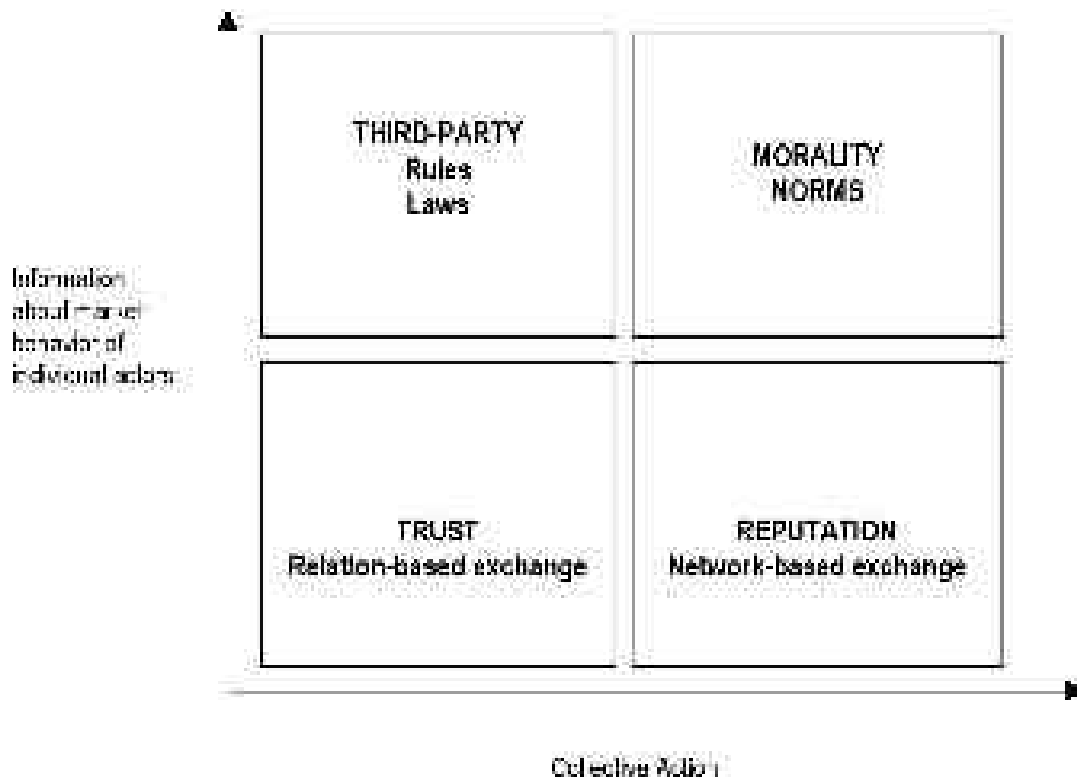
But in markets where information about cheaters can be more easily transmitted and where market actors are willing to collectively sanction or punish the cheater, then another mechanism prevails: the multilateral punishment strategy based on reputation (Greif, 1993). But this type of enforcement is also limited by the fact that it is difficult for the group to know exactly what went on between two parties and gives rise to disinformation. This type of network-based system may dominate where markets such as for long-distance transfers of goods, either to export markets or across long distances within countries. In this case, tightly knit, ethnic-based export networks may emerge, as in the case of high-value agricultural exports from Africa to European markets, much like the ethnic Chinese networks in east Asia.

A third alternative to trust-based or reputation-based contract enforcement is third party enforcement, which arises in the absence of repeated interactions or of dense social networks in which collective action is likely. The third-party institution requires that considerable information exist about market actors but does not require collective action among market actors. This third party mechanism, such as a credit reporting agency or trade can resemble the reputation mechanism in that information about individual cheating behavior but differs in that collective punishment is not required. This system prevails where information about past behavior can be recorded, usually in a centralized market such as an export registration board or export auction.

Finally, where collective action opportunities are high and where information about actors' behavior is also available, contract enforcement can depend largely on a higher-order set of norms and moral authority. This is also the arena in which laws and formal rules governing economic exchange behavior are likely to be meaningful. This type of enforcement may prevail in formal commodity exchanges where many buyers and many sellers collectively agree to abide by rules and laws established by the market (such as the Exchange codes of conduct) and where information on behavior is readily available in a transparent way.

The typology developed is based on two key parameters: the availability and ease of obtaining information about market behavior and the extent to which market actors are willing to engage in collective action. These dimensions determine the extent to which private and public enforcement may occur and also attempt to capture the specificities of the products and markets themselves (Figure 11). We now turn to an in-depth view of each of the various types of contract enforcement institutions.

Figure 11: Enforcement Dimensions



5.5 Bilateral Personal Trust versus Community-based Reputation

Examples of personal trust as an enforcement mechanism are found in local market settings where repeated interaction is common. Empirical research in the context of agricultural markets in Madagascar by Fafchamps and Minten (1999) demonstrates that trading contracts are enforced mainly by the existence of trust-based relationships, where trust is established primarily by repeated interaction. The incidence of theft and breach of contract is low and recourse to the legal system is rare.

However, the bilateral trust based mechanism described above is limited in its enforcement potential since retaliatory sanctioning will only affect the mutual relationship of the two partners without affecting the relations of the cheater with other potential partners in the community. Thus, a multilateral reputation mechanism resolves this limitation (Platteau, 2000). This mechanism requires that information about past dealings circulate effectively within a given social group or community. Thus, even if no two traders exchange together frequently, but if each trades frequently with other community of traders, then transferable reputations as an adequate bond for honest behavior if members of the community can be kept informed about each others behavior (Milgrom, North, and Weingast, 1990). Within small communities characterized by dense networks, this informational condition is easily satisfied. In Hayami and Kawagoe's (1993) analysis of rural markets in Indonesia, this is effectively the case:

In the village community, everyone is watching everyone. Gossip about one's misconduct is circulated by word of mouth faster than any modern means of com-

munication. In such an environment, a significant cost would be incurred to a person who would violate a contract with his fellow villager, ...not only would he lose benefits from the present contract but the resulting contract would deprive him of future opportunities to enter into other contracts with other villagers. (p. 167).

The specification of what is desirable behavior along with rules regarding sanctions within a community may be viewed as a social or a community norm (Kandori, 1992). In small communities where members observe each other's behavior, the Folk Theorem for personal enforcement can apply to community enforcement. The critical piece is the transmission of information regarding past actions.

5.6 When Reputation Fails: Repeated Interaction

We now move beyond small communities in village settings to an expanded market in which traders are no longer bound within dense social networks in which information flows easily. In this setting, where anonymous exchange seems to prevail with the expanded and constantly changing scope of actors, neither the personal trust nor the social norm enforcement mechanisms appear viable. In the famous example of the bazaar economy in Morocco described by economic anthropologist Clifford Geertz (1979), traders make use of clientelization, which he defines as:

the tendency for repetitive purchasers of particular goods and services to establish continuing relationships with particular purveyors of them, rather than search widely through the market at each occasion of need. The apparent Brownian motion of randomly colliding bazaars conceals a resilient pattern of informal personal connections. (p.30)

Thus, despite the many actors involved in the bazaar, in effect, trade is not impersonal but based on long-term relations and repeated interaction. However, in this case, each trader has little access to information about the partner's past actions. Thus, more emphasis is placed on selecting the "regular" with whom one establishes a long-term relationship. Selection, or the signaling of future honest behavior, could be on the basis of appearance, habit, accent, names of mutual friends or other signals (Aoki, 2001).

In addition to the Moroccan bazaar economy, many examples of clientelization in developing and developed countries have been extensively studied, particularly by an earlier generation of economic anthropologists. These studies have covered: relations between fishermen and dealers in the Maine lobster market (Acheson, 1985); the pratik in Haiti (Mintz, 1964); Onibara relationships in Nigerian markets (Trager, 1981); suki relations in the Philippines (Szanton, 1972), and cliente relations between vegetable producers and middlemen in Guatemala (Swetnam, 1978). Generally, these clientele-based relations have been characterized in this literature as a means of risk-sharing, rather than contract enforcement. But, if the concept of risk is clarified as the risk of contractual failure, which is generally true, then these practices constitute an effective enforcement mechanism.

Box 4: Enforcement of Commercial Contracts in Ghana

The enforcement of commercial contracts in Ghana is problematic for two reasons. First there is no mechanism for sharing information about bad payers. As a result, each firm must screen every single firm and individual it wants to deal with. Second, many firms find it impossible to honor a contract, because of shortages of critical inputs, difficulties in transport, and payment delays.

58 Ghanaian firms were interviewed in 1993 by a team of Ghanaian and World Bank researchers. Firms were asked about non-payment and late payment problems encountered with clients. More than half of firms experienced non-payment and nearly all had experienced late payment. Similarly, firms were asked about problems of late and non-delivery and deficient quality by suppliers. While nearly half had experienced late delivery, much less had faced non-delivery. A high proportion experienced deficient quality of inputs delivered.

Table 8. Incidence of Contractual Problems in Ghana

	Number of observations	Number citing problems
Non-payment by client	52	30
Late payment by client	50	41
Non-delivery by supplier	55	14
Late delivery by supplier	55	28
Deficient quality	54	31

Source: Fafchamps, 1996

Means of avoiding problems

Reputation per se plays little role in identifying reliable clients because there is no mechanism to transfer information on past defaults. Use of legal recourse is very rare: 13 percent of firms in the case of suppliers and 8 percent in the case of clients. One fourth of the sample actively screens prospective clients by visiting their client's workplace and establishing a relationship with them. In the case of suppliers, two-fifths of the sample indicated that the best way to avoid problems is to trade repeatedly with the same supplier. Firms deal on average with only 5 suppliers, and have 3 regular suppliers who extend credit to them, with whom they have been working for an average of 8 years. Thus, the use of regular suppliers is considered the dominant form of avoiding enforcement problems. While this institutional response successfully enables firms to develop and gain trade credit, it leads to fragmentation of the market into networks, potentially limiting specialization and firm growth.

Source: Fafchamps, 1996

5.7 Private and Public Third Parties

An alternative solution to the information problem that is posed when traders do not meet repeatedly and dense social networks are not present is that of a third party who monitors cheating and transmits information on past cheating behavior among traders. The well-known historical example of a private third party is the case of the Law Merchant in medieval Europe analyzed by Milgrom, North, and Weingast (1990). During the twelfth and thirteenth centuries, much of trade between southern and northern Europe was conducted at Champagne Fairs, in which merchants from all over Europe entered into contracts for long-distance shipments over time. Without the benefit of legal enforcement, merchants evolved their own commercial code, the *lex mercatoria* (law merchant), which governed commercial exchange and was administered by private judges drawn from commerce on a fee basis. After any exchange, each trader can accuse the other of cheating and appeal to the law merchant, who adjudicates fairly and awards damages. However, the payment of damages is voluntary because the law merchant has no power to enforce payment. The law merchant keeps a record of any unpaid payments. Finally, prior to finalizing a contract, any trader can query the law merchant for records of previous judgments about any other players. The analysis shows that, if both traders check the records prior to trade and either do not exchange if they find outstanding judgments or play honestly if they find no judgments, a sequential equilibrium can be achieved and the system of the law merchant can enable trade even without the capacity to enforce judgments (Aoki, 2001).

As the size of markets expands, recourse to a public third party is inevitable. One reason is that private third parties lack enforcement power. While use of private third parties is voluntary, private agents cannot escape from the coverage of the national government without physical exit (Aoki, 2001). Further, in considering which law a given country should have, Schmid (1992) cautions against the idea that the rule of law can be externally driven. Thus, countries in transition, which are modernizing their commercial codes patterning them on industrialized country laws. But is all Western legal capital the same? In 1991, Czechoslovakia revised its pre-war code by adding new material from German commercial law. Mali has the same modern commercial code that France does. But did France have this commercial code when it was in the Mali's current stage of development?

6. Approaches to Market Development on the Ground

Market development efforts in the post-liberalization era can be seen as focused on two types of interventions: fostering reliable market linkages for smallholders particularly to export high-value markets and support measures aimed at strengthening the institutional arrangements that govern markets. A brief review highlights the best practices and impacts as well as the gaps.

6.1 Building Market Linkages for Smallholders: Value Chain Approach

The premise for interventions has been that market forces alone will not ensure the integration of smallholders into the global market because of the high transaction costs associated with involving numerous, small-scale, and geographically dispersed producers.

Box 5: eBay.com

Modern corollaries to the law merchant can be found in cyberspace. Founded in 1995, eBay.com is the world's largest online auction website. The eBay community includes tens of millions of registered members around the world. The company's mission is to provide a global trading platform where anyone can trade anything. On any given day, there are more than 12 million items listed on eBay across 18,000 categories. In 2002, members transacted US \$14.87 billion in annualized gross merchandise sales.

eBay.com maintains a record of trading experiences, positive and negative, of buyers regarding sales agents. These are available to anyone who trades on eBay.com. It also maintains and provides records of buyers' past assessments. Thus, it is possible to obtain a considerable amount of information on the reliability of an otherwise completely anonymous trading partner. Most of the selling on eBay occurs in an auction or "buy it now" format. It all begins when the seller posts the item on eBay for a specified duration. Potential buyers search for items and place bids, which are recorded and available for anyone to see. The person who placed the highest bid or who chooses to "buy it now" wins the items and the seller and buyer make private arrangements for payment and shipping. After the payment and the item is delivered, both buyer and seller leave feedback on each other on eBay's Feedback Forum.

Anyone interested in knowing the seller or buyer's reputation can obtain the partner's trading history on eBay, from voluntary comments and feedback of previous partners. eBay has a feedback ratings star system, based on obtaining either negative or positive points for each comment received, which is used to standardize the feedback. Thus, next to an eBay member's user identification number, there is a feedback rating number. Because the feedback mechanism is critically important to the success of this auction, it has developed a set of rules regarding feedback, including the prohibition of "shill" feedback, which using other identification to artificially one's own feedback, extorting feedback, soliciting or trading feedback, and abuses of feedback. In addition, responses can be given to feedback, which are then also in the permanent record. Finally, users can choose to not make their feedback public. However, this is discouraged because, as the website states, "feedback is your valuable asset as a way to generate trust in you."

Source: Aoki (2001); Ebay

A review of interventions by Joffe and Jones (2004) considers that efforts have focused on two areas: establishing rural retail networks for inputs and in creating farmer-based enterprises linked to global markets. In these efforts, either non-governmental organizations or donors have played a very active sponsoring role. Activities included in this effort include the following:

- Identifying and training rural retailers
- Facilitating supply contracts between input suppliers and retailers
- Providing partial credit guarantees to suppliers
- Proving demonstrations to farmers on technologies
- Facilitating the formation or strengthening of farmer marketing groups (associations, clubs, cooperatives)
- Undertaking commodity market studies and providing information services
- Facilitating contractual agreements with buyers.

As noted, non-governmental groups, particularly linked to USAID, have been pioneers in these efforts. What has come to be known as the “Rockefeller model” has focused on establishing rural input retailer networks in eastern and southern Africa. Similarly, what might be considered the “USAID model” through partners such as CLUSA, ACDI/VOCA, and Technoserve have been heavily engaged on the creation of producer market-oriented organizations, operating as business enterprises in both west and eastern and southern Africa.

These approaches have demonstrated early successes in linking smallholders to the global value chains and in developing a business orientation in collective action groups. However, in considering scaling-up of these efforts, it remains unclear to what extent program costs outweigh the benefits or whether the initiatives will survive beyond the lifetime of the projects (Joffe and Jones, 2004).

6.2 Building Institutions for Markets: Market Development Approach

The key issues that have emerged from the experience of traditional or bulk-commodity markets in the post-reform era are:

- The need for mechanisms to transparently grade and standardize products for market, from the production level on throughout the market chain;
- The need for market information that is accessible to all market actors;
- The need to foster competitive practices among all market actors, across all levels of the chain;
- The need for financial markets to respond to market needs for trade finance, for inventory finance, and for alternative financial products;
- The need for dispute settlement and regulatory systems to evolve according to market needs, and in a way that relies also on the private incentives for self-regulation, notably through the potential role of trade associations;
- The need for risk-transfer through mechanisms such as forward contracts and transferable warehouse receipts, and,
- The need for concerted efforts to build capacity throughout the marketing system, including cooperatives, small and medium private traders, and public actors.

Interventions concerning the above have tended to involve the creation of long-term institutions and have thus involved national governments to a greater extent. However, the experience of sustained efforts is limited and the impact has generally been mixed. Efforts have been focused on three of the above areas: market information systems, grades and standards, and warehouse receipt systems.

6.2.1 Grades and standards

With regard to a viable system of grades and standards, which is vital to market development, a key issue is how to translate standards to the very basic level of production in the commodity chain. The biggest challenge in standards implementation is translating standards to farm level. Currently, there is a wide gap in the implementation and enforcement of standards on various products, and many of the prepared standards have been shelved across countries.

6.2.2 Finance

Broadly speaking, the potential sources of formal external finance are banks and microfinance institutions (MFIs). At present, MFIs play a limited role in trade finance. With MFI loans subject to regulatory and group imposed limits and the reluctance of formal banks to provide small loans, there is a significant financing gap for those in the middle category. Banks on their side have been reluctant to engage in inventory finance linked to a warehouse receipts system, because of the high risks in agriculture and an insufficiently secure receipts system.

6.2.3 Market information

In many countries, market information is collected, analyzed and disseminated by a number of organizations-federal and regional government organizations, cooperatives, donors, international organizations and NGOs. The data collection methodologies and procedures considerably vary from organization to organization and must be standardized in order to make such data comparable and commercially valuable. A clear conceptual framework regarding the levels of the market and the quality standards for which price data is quoted by the different organizations needs to be devised and implemented in collaboration with the different organizations engaged in data collection.

6.2.4 Public and private sector capacity

A critical issue across the board is the very low human and organizational capacity of both the public and private sector with respect to agricultural marketing. Concerted efforts to build capacity are required at three levels: public institutions, public actors, and private actors.

6.3 Toward an Integrated Approach

In much of the sub-Saharan Africa, the recent market development agenda remains fraught with internal tensions and critical concerns. At the heart of these concerns is the need to consider market development as an integrated whole rather than the sum of piecemeal interventions targeting different sets of actors. This is as much a matter of perspective as much as of design.

This can be viewed as the “fallacy of composition” argument that considers that the sum of the parts equals the whole. An illustration of this fallacy is the promotion of contractual arrangements between farmer groups and industrial buyers without consideration of the broader whole that is the market mechanism in which buyers and sellers must arrive at an appropriate market-clearing price, determined through an accepted and transparent system of measuring quantity and quality, and within a system that ensures that contracts are enforced and property rights are secure.

A second example might be the tensions inherent in the promotion of a system of inventory credit, a financial instrument, designed to meet price stabilization objectives, in the absence of accompanying measures to provide transparent information on product prices, qualities, stocks, and warehouse performance and a viable dispute settlement mechanism, all of which are essential to providing incentives for the financial system to participate.

How then to achieve the necessary holistic perspective to market development? One promising avenue currently gaining interest, which historically has had tremendous power to transform markets when appropriately designed and implemented, is that of commodity exchange development.

A commodity exchange, whether concerned mainly with spot (for immediate physical delivery) or futures (for delivery at a future date) transactions, can be defined as an organized marketplace where sellers and buyers’ interactions are governed by a set of specific and transparent rules, related to price bidding, grading, delivery, and dispute adjudication.

A commodity exchange has the potential to reduce transaction costs by: facilitating contact between buyers and sellers; enabling centralized grading of products; ensuring that contracts are enforceable; providing a mechanism for price discovery; simplifying transactions with standard contracts; and, transmitting information about prices and volumes. Further an exchange increases market liquidity, enables the transfer of price risk, and enhances trust, order, and integrity in the market.

Commodity exchanges, generally private organizations, have served to govern contractual relations and enable low-cost transacting between large numbers of dispersed buyers and sellers. Their functions have included commodity measurement and the assignment of given standards, contract enforcement, the policing of theft and fraud, and the public provision of information. While the premise of the commodity exchange as a private-order institution is that the market, made up of private actors, will act on its own internal incentive for order, it does

not hold that there is no room or role for public-order intervention. The success of the commodity exchange in privately fulfilling its functions depends to a large extent on the distributive consequences of bringing about order. That is, if the costs or welfare losses to those that benefit from the lack of order are significantly greater than the gains, then it will be very difficult for a private institution alone to achieve its objectives. This is notably the case of the world's most successful commodity exchange throughout history, the Chicago Board of Trade.

While extremely successful in enforcing contracts, the Chicago market in its early years failed to regularize the grading and inspection and weighing of grain and to reduce the severe information asymmetries in the grain market. While able to do so for other products, it failed with regard to grains specifically because of the immense and powerful interests of one set of actors, the warehouse operators, who stored and graded grain and issued receipts in return. Warehousemen in the 1850s and 1860s eroded the trade by grading erratically and mixing across qualities of graded grain, as well as by acting on private information regarding stocks and qualities of grain under their hand. In order to create a consistent system, the Board of Trade had to appeal to the authorities to ensure a system of inspection that was legally binding over the warehouses. Later, even this system gave way to a full-fledged role for the state in the inspection of all goods traded through the exchange, still the case today. In contrast, other exchanges, such as the Liverpool and London Corn Exchanges, the London Metal Exchange, and others, successfully provided key market services, in a variety of contexts, with little or no state intervention.

These insights suggest that there is no blueprint or silver bullet in commodity exchange development. A successful commodity exchange facilitates transactions between market participants – farmers, processors, traders, consumers, food aid agencies, parastatal agencies, and others – in a low-cost environment. The lowering of costs is passed on to market actors who can then directly benefit from a higher share of the final price. This in turn generates incentives for increased market volume, and provides an incentive for increased participation in the market.

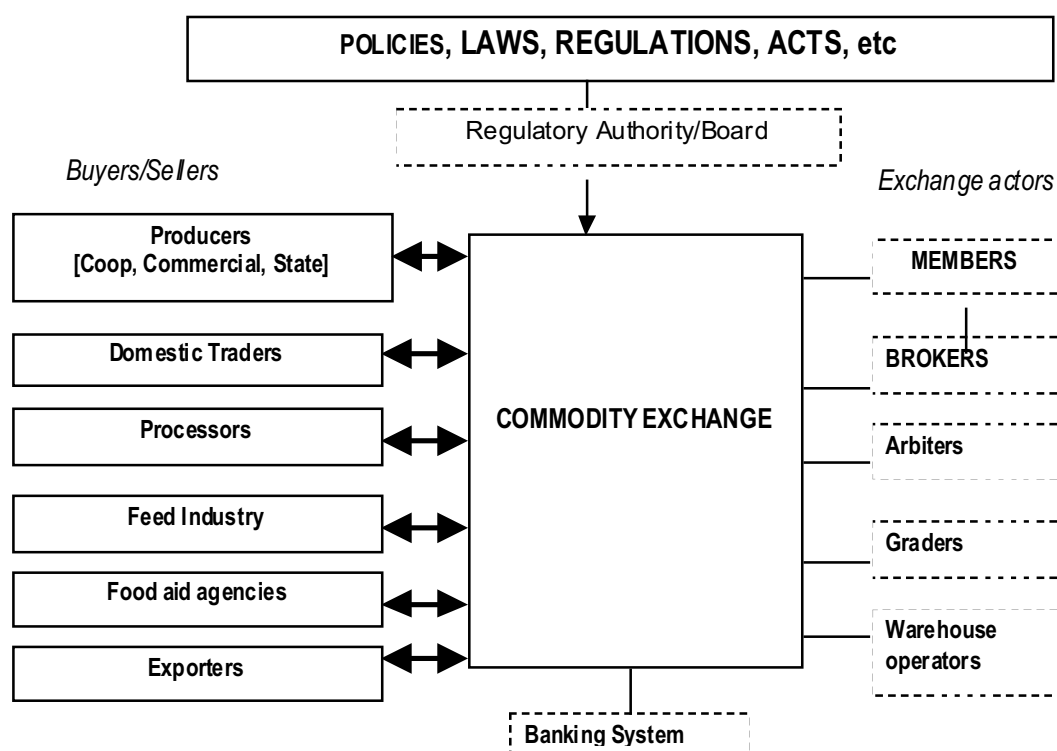
As an institution, a commodity exchange itself depends on a number of linked institutions, which are critical to its functioning. These core institutions are: a market information system; a system of product grading and certification; a regulatory framework and appropriate legislation; an arbitration mechanism; and, producer and trade associations. In addition, a warehouse receipts system is a very important related institution. A commodity exchange also depends on the functioning of “allied” sectors: banking, insurance, transport, IT services, and even inspection services. Thus, while these sectors are not strictly part of an integrated institutional development plan, they must be nonetheless engaged and involved and brought along as the exchange development proceeds.

When linked to a negotiable warehouse receipts system, the increased liquidity as market transactions increase, over time evolving to futures trading, implies that the thinness of markets lessens, and the market can be expected to enable the transfer of risk from market actors such as farmers to those who are keen to absorb risk, such as speculators.

7. Conclusions

This paper has highlighted that the starting point for appropriate market development intervention is first understanding how markets actually work and in particular how institutions facilitate market exchange. It has also emphasized that getting markets right requires a holistic agenda in which incentives, institutions, and infrastructure are aligned. In terms of institutions, the core agenda is to understand the complexity and diversity of institutional arrangements for facilitating market exchange. In particular, the paper has emphasized that market institutions play out in two vital arenas: bringing order and reducing coordination costs and in the enforcement of contracts and property rights.

Figure 12: The Structure of a Commodity Exchange and Allied Institutions



With regard to coordination and coordination failure, the paper presented both the transaction cost and the commodity chain approaches, with their relative merits and gaps. A key point is the need to tailor the appropriate institutional coordination mechanism to the underlying transaction costs. With regard to enforcement, the paper similarly presented the spectrum of thinking on how bilateral, community, repeated interaction, and third parties play a role in enforcement. This overview served to present a broader view of enforcement, involving communities, social networks, etc, rather than the often singled out mechanism of legal framework development.

Moreover, in reviewing the market development experiences to date, the paper has shown the dichotomy in approaches between highly donor-driven, short-term, value chain development efforts in contrast to longer-term, state-led, market institution building. To date, the latter has shown less impact, though more sustainable in the long term, than the former. With regard to market institutions, it was emphasized that piecemeal interventions do not have the intended results. Thus, the paper then tried to highlight that market development is a long-term agenda, requiring a progressive and integrative perspective that addresses the 3 I's of market development in a holistic fashion. There is an important role for the state vis-à-vis all of these dimensions of market development and a central role for the private sector. In considering how to achieve an integrated perspective, some thought was given to the concept of a commodity exchange where in all the various elements come together.

Broadly, we conclude by stating that key issues facing policymakers and development practitioners in addressing the urgent issue of market development, both for global high-value chains, as well as for domestic or traditional bulk commodity markets are the following:

- The engagement of the private sector and the respective roles of the public and private sectors in market development;
- Specific efforts to address smallholder engagement in both the global and domestic market;
- The appropriate strategy in terms of building the basic market institutional components individually or starting institutional development in a holistic manner;
- The development of horizontal coordination between producers and traders alongside vertical coordination between actors in the chain
- The mechanisms to capitalize on internal incentives for self-regulation and the creation of a viable regulatory and legal framework;
- The correct balance between an enabling policy environment and private incentives; and,
- Basic infrastructural and capacity-building requirements, to accompany institutional development.

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8. Discussion, Building Institutions for Markets: The Challenge in the Age of Globalization

8.1 Esbern Friis-Hansen and Tom Mugisa*

Friis-Hansen began by commenting on the difference between Gabre-Madins paper and presentation, the former being a review of new institutional economic thinking, while the presentation was empirically rich. Friis-Hansen's comments focused on the paper, however. Friis-Hansen suggested that Gabre-Madhin's starting point that markets – rather than prices – need to be right, is very essential. Nonetheless he wished to add a few qualifications to the paper:

- The focus on *the public sector* needs to be broadened to also include the role of NGOs and civil society.
- *The political economy aspects of structural adjustment programmes need to be addressed.* For instance the social and geographical effects of SAPs, and the kinds of institutions needed in relation to these effects, needs to be considered. For instance, grain marketing boards served a function pre-SAP and many of their functions are missing post-SAP with severe consequences. Likewise, globalization has not been considered by SAPs and for this reason the concern with export crops, and a concomitant fall in export prices in a situation of dismantled marketing structures post-SAP has meant that transnational companies have linked up with traders in what is a very uneven relationship. The role of the state post-SAP also needs to be qualified, argued Friis-Hansen, as African governments today resist policy changes geared towards increasing the market enabling role of the state.
- With regards to *input supply there are still a number of unanswered questions:* the scrapping of subsidies has resulted in a tenfold rise in fertilizer prices and a five-fold rise in seed prices. Although CT-centres may advance pro-poor technologies they still demand inputs from a market which is lacking. As well, these technologies are knowledge-intensive and in the post-SAP era extension services are lacking. Inputs thus have not spread through the market.
- A suggested role of the government could be to *establishing a quality control system for traditional export crops*, which previously was the domain of parastatals. Likewise a *payment system reflecting quality* is needed, and there may be a role for government to ensure this either directly, or through facilitating for this function being carried out by the private sector. Donors may be involved in this sector in many different ways. In Tanzania for instance, IFAD supports the Ministry of Agriculture and the Marketing ministry in developing a marketing policy and lowering transaction costs among small farmers, while DANIDA also supports a private sector initiative in this direction.
- *The agency among farmers and the private sector, as well as the role of farmer groups*, need to be considered. There is no longer state control of the sector and the private sector is lacking in this respect. This has created a void in political terms where new co-operatives are emerging. A positive example of such co-

* Esbern Friis-Hansen, Danish Institute for International Studies, DIIS, Denmark and Tom Mugisa, Program Officer, Plan for the Modernisation of Agriculture, PMA, Uganda

operatives can be found in Kenya (Kakamega) where farmers' profit-margins rose significantly through collecting produce before sale.

Mugisa's discussion centred on a number of issues:

- On the basis of a Ugandan example where small-scale farmers were producing according to requirements of the international markets through a direct link with the buyer, Mugisa argued that *market information is necessary along the whole production chain*. Hence, he suggested, the issue of missing markets needs to address the issue of missing products as well.
- He also pointed to the risk of quality issues becoming secondary as a result of what he termed "desperate consumers" and "desperate producers" and argued that there is a *need to differentiate between formal and informal institutions* and take into consideration the rules and regulations that govern these institutions. Mugisa suggested that the bulk of desperate producers, for instance, are served better by informal institutions by virtue of their relatively short supply chains.
- In addition Mugisa raised the issue of *investment as a broad area which, he argued, required more analysis*. Again on the basis of the Ugandan experience he pointed to an artificial surplus of funds which cannot be used since they are unavailable to traders and farmers.
- The issue of *missing markets for inputs and outputs* was also briefly raised

8.2 Round-table discussion

The general discussion following the discussants' presentations focused on a set of issues namely:

- *Qualifications regarding the functioning of markets in general and the role of government intervention*. Sarris advanced the argument that there is a lesser role for government intervention with regard to non-traditional exports than for food crops, and that the latter should be prioritized. Although there is scope for certain government interventions it has to rely on markets that have self-enforcing and regulatory mechanisms, argued Sarris. The key issue in this context is how such markets evolve? On the basis of the Zimbabwean experience with smallholder agriculture following the independence era, Gabre-Madhin argued that the country exhibited a commodity chain success involving smallholders. A long list of prerequisites are necessary, though, first of which is that regulation should follow, rather than lead, the market.
- Heinemann cautioned that markets and market intervention by government was being misunderstood at times, for instance in regards to the input market for fertilizers which pre SAP had the advantage of scale economies through a single government agency. With the dismantlement of such agencies fertiliser prices soared, not as is often assumed because of withdrawn subsidies, but rather as a result mainly of declining economies of scale.
- The *relationship between domestic and foreign markets and institutions*: The relationship between domestic and international price volatility was pointed to

and questions raised as to whether (given the wedge between import and export prices) the domestic market should be opened up? Gabre-Madhin, however, argued that the long-term perspective calls for a market-based agenda also outside the domestic market, which can be accomplished through levy bands.

- *The role and building of institutions in market development* was discussed at some length and from numerous angles. Gabre-Madhin – in response to Mugisa’s point regarding the necessity of differentiating between formal and informal markets – stressed that institutions form a continuum between the formal and informal, although it may be difficult to grasp the idea of an endogenous emergence of institutions without state involvement. Havnevik pointed to a general lack of understanding of the complexity of institutions although their role was addressed already in the late 1980s through a World Bank report (1989). Gabre-Madhin argued that despite rhetoric in World Bank development reports little operationalisation and development of institutions is occurring at ground level and in general understanding of market-participation is limited. Hårsmar raised a question relating to work done by Jan Willem Gunning and Chris Elbers on how the presence of risk and vulnerability leads to investments in indigenous institutions that are less market friendly and less dynamic. If vulnerability promotes certain institutions he wondered whether this suggests that a “big push” in institutional change is required or whether this could be a gradual process? Again, the need for indigenous institutions was emphasised by Gabre-Madhin. Lastly, the need to broaden the perspective towards regional markets to understand the role of regional institutions within the market for food crops was also discussed.
- *Global value chains*. Havnevik commented on the value-chains aspect raised by Friis-Hansen’s discussion and expressed agreement with the discussant’s assessment that African farmers and firms have less influence than farmers and firms outside Africa. The removal of the state in this context has put the producer at an inferior position in relation to international producers and companies. Gabre-Madhin, however disagreed with this view and argued that it represented an alarmist approach to value-chain inferiority. She presented Kenya as an example where the inspection service functions and smallholders are retaining their market share.
- *Policy implications/interventions*. A number of questions were raised regarding policy towards institutions and the role of donors in building capacity at the institutional level. Heinemann for instance called for tools to assess whether interventions at the management level of the value chain were beneficial to small farmer interests. Issues regarding the donor agenda in relation to institutional development were raised by Genfors and Gerremo respectively. In response Gabre-Madhin identified a practical development agenda for governments containing aspects where the scope for donor involvement is significant. In terms of *policy*, she argued, governments need to create a less uncertain framework, for instance through industry councils coming together. Mozambique was taken as an example of a country where an advanced policy dialogue with the private sector was being undertaken. On the *technical side*, she identified numerous possible areas

for donor involvement, namely technical assistance for systems for market information through grades and standards, an arbitration system, infrastructure for rural market storage mechanisms, roads, and telecom development especially in terms of mobile technology. The abandonment of quality control in the post-reform era, through a strong disengagement by the state and a failure by the market to capture this area, was emphasised. The importance of grades and standards as an area for government intervention was stressed by Gabre-Madhin. Mugisa, had earlier cautioned that disillusionment with exchange and warehouse receipt systems and the enforcement of contracts is rife. *Capacity building* in general was identified as an area in need of support (both from government and donors). In Ethiopia for instance the market forecasting system is underdeveloped.

- *Farmers groups*; Heinemann commented on the role of farmers' groups and wondered who is strengthening them, as NGOs and the service sector are very nascent in market change. Gabre-Madhin, however, argued that there is a scepticism regarding the focus on producer organizations as what she termed "hand holding" leads to non-sustainability. Domestic institutions are better suited to delivering market intelligence and the tracking of merit performance in the market.
- *Investment, finance and credits*. Mugisa's earlier point related to an artificial surplus of funds was refuted by Gabre-Madhin, who argued that excess liquidity (which is also the case in Ethiopia) is not *per se* an indication of a weak investment climate, but rather reflects a high investment risk on the part of financial institutions. For this reason market information systems and production forecasts are needed for the financial sector to reduce such risks. On the subject of credit, Sarris asked whether interlinking markets were occurring in Ethiopia in terms of traders providing finance/credit to farmers. Gabre-Madhin replied that the extent of forward contracting is limited and connected with the uncertainty of delivery. She also argued, however, that interlinked contracts could be created through an auction mechanism, which would deliver credit without a state monopoly.

Policy, poverty and agricultural development to support small scale farmers in Sub-Saharan Africa: Reflections from West Africa

*Bara Guèye**

1. Introduction

The content of this paper is mainly prompted by recent studies the author has taken part in relating to an analysis of changes in West African agriculture and the role of small-scale farming. Although the title of the paper refers to Africa, the empirical data this analysis is based on relate principally to the situation in West Africa.

Increasing attention is being given to the role of the agricultural sector in the fight against poverty and the overall economic development of the continent. This is justified by the fact that poverty hits rural populations particularly hard. However, in view of the complexity of the problems and the limited resources available, choices have to be made in favour of policies capable of stimulating growth whose fruits will be fairly distributed.

The work on which this paper is based demonstrates the key role played by small-holdings in cereal production and export crops in West Africa and in the fight against poverty due to their ability to develop strategies capable of boosting their resilience against the risk they face. This underlies the firm belief that they must represent the major pillars of any development policy for the agricultural sector.

2. Position of agriculture in the economy and the role of family farms

Agriculture continues to be the principal sector on which the survival of the majority of the population of Africa depends. This sector employs more than 60% of the working population and contributes more than 35% of the GDP of most African countries and more than 40% in the least developed countries in Africa. Recent trends suggest that the role of this sector will be strengthened over the next few years. Today, despite great changes in political debates, the performance of agriculture remains weak. The sector essentially comprises small-scale farming, which accounts for more than 90% of agricultural production in Africa.

Small-scale farming involves a form of organisation which brings the social, cultural, economic, and technical functions of farming close together. The key position of family labour in production, as well as the process of acquiring and passing on resources, generally based on inheritance, are characteristics which differentiate the small-scale family farm from the commercial agricultural enterprise.

* Director, Innovations, Environnement et Développement en Afrique, IED Afrique, Sénégal

Family labour, which is unpaid but which offers many compensations, has a certain competitive advantage over commercial agriculture, because it is during crisis periods (such as drought, floods and others disasters), when the yield from labour is particularly low, that it retains the highest level of availability and commitment. In addition, as part of the system, family workers are in general more highly motivated than agricultural wage-earners (Djurfeldt, 2005). Although small-scale family farms tend to have relatively small land areas⁶, this is not a fixed characteristic, their specific nature being based more on the organisation of production than on the amount of land.

Table 9: Comparison between family farms and commercial agriculture

Characteristics	Family farms	Commercial agriculture
Role of household labour	Large	Small or none
Community links	Strong: based on solidarity and mutual assistance between household and wider group	Weak: often no social connection between entrepreneur and local community
Priority aims	Consume Store Sell	Sell Buy Consume
Diversification	Strong: to reduce exposure to risk	Weak: specialization in very limited crops and activities
Flexibility	Strong	Weak
Size of the farm	Tends to be small: average 5 to 10 ha	Large: may be more than 100 ha
Links with the market	Weak: but growing	Strong
Access to land	By inheritance and social arrangements	Quite often by purchase

Source: Toulmin and Guèye (2003)

⁶ In Ghana, for example, a 1997 study showed there to be 800,000 small cocoa growers with an average area of agricultural land of 3 hectares, 60% of whom had less than 2 hectares and 80% less than 4 hectares (Owusu, 2002). In Benin, the average size of farms is 3.3 hectares (Minot et al., 2001). In Mali, cotton is grown by more than 200,000 farming households of an average of 15 people, which cultivate 10 hectares (Toulmin and Gueye, 2003). In Ghana, for example, a 1997 study showed there to be 800,000 small cocoa growers with an average area of agricultural land of 3 hectares, 60% of whom had less than 2 hectares and 80% less than 4 hectares (Owusu, 2002). In Benin, the average size of farms is 3.3 hectares (Minot et al., 2001). In Mali, cotton is grown by more than 200,000 farming households of an average of 15 people, which cultivate 10 hectares (Toulmin and Gueye, 2003)

However, family farms have several other advantages which illustrate their multi-functional nature and deserve to be emphasized:

- They are based on a diversified and integrated range of activities, which enables them to anticipate the consequences of fluctuations in climatic factors, cope with the seasonal nature of agricultural income and limit the risks related to high dependency on the market by giving priority to a balanced association between commercial crops and crops directed towards fulfilling food needs.
- They have great flexibility and solid capacity to adapt, which enables them to make the necessary adjustments in allocating their resources in response to unexpected situations or indeed to seize the opportunities offered by the market. This flexibility often does not exist in commercial farms which are generally highly specialised, depending on the formal financial system and consequently highly vulnerable to fluctuations in financial markets and agricultural products.
- They are based on values of solidarity and retain strong community ties, which is one of the key elements in the fight against poverty in the rural setting. Today, these solidarity mechanisms are not just diversified, they have also to some extent become more complex and subject to a high degree of organisation. The various forms of “mutuality” centred on the supply of loans, the increasingly common formation of economic groupings, solidarity funds, cereal and seed banks, are endogenous instruments that can contribute to reducing the vulnerability of rural households.
- They organise their economic activities according to a hierarchy of objectives, firstly consuming, secondly storing and finally selling, although in reality the system is not quite so linear in nature. These strategic choices can be seen to be particularly relevant in a situation in which income derived from agricultural produce for export is severely affected by market liberalisation. Priority consequently has to be given to food security in fighting rural poverty.
- They have solid innovative abilities and show a clear concern for conserving the natural resources on which their survival depends. They consequently favour sustainable agricultural practices, in contrast to commercial farms, which are driven more by short-term financial gain and therefore try to derive as much as possible from natural resources through agricultural practices generally not based on established principles of sustainability.
- Contrary to a widely-held view, they make use of the size of the population as a means of combating vulnerability and of risk management. Capacity for diversification and adaptation largely depends on the size of the farm population. Several studies (Djurfeldt, 2005; Toulmin and Guèye, 2003; Mortimore, 2003) have shown that the level of vulnerability of farms was often closely correlated with the small size of the workforce. In the absence of a suitable level of mechanisation, the small size of the workforce limits the area of land farmed as well as opportunities for diversification. Nuclear families are therefore often more vulnerable to the risks and cannot benefit from economies of scale in terms of production, investment and diversification of income.

It is important to note, however, that family farms do not form a homogeneous category. They include several types of farm with highly variable levels of performance and viability depending on their degree of security of tenure, the size and quality of land holdings, the size and structure of the workforce and access to finance and markets. In the classification of rural worlds presented in Box 6, most family farms in Africa straddle types 2 and 3. What makes this classification important is that it implies that political measures to be taken in favour of small-scale farms must not be standardised but must instead take account of the specific needs of each type of farm.

Box 6: The three rural worlds

Rural world 1: globally competitive, strongly linked to agri-business, to producers and processors of staple products; with solid political connections; geared towards exporting; supporting the Green Revolution and transgenic technologies.

Rural world 2: geared towards the local market, with access to land and control of tenure, multiple and diverse enterprises, under-capitalised, worsening commercial conditions and serious risk of future impoverishment.

Rural world 3: fragile means of existence, limited access to production resources, migrants with many activities straddling the rural and urban settings, lacking in qualifications and education, dependent on cheap labour, marginalised by world food production systems.

Source: Vorley in Toulmin and Guéye (2003)

3. Poverty and performance of the agricultural sector

Africa today faces poverty on a scale which constitutes a major obstacle to the economic and social development of its populations. Around 80% of the population survive on less than two US dollars a day, and there is a trend towards an increase in poverty, Africa being the only continent in the world to have become poorer since 1979. It is estimated that between 1990 and 2000 poverty in Africa increased by 3%, whereas in all other regions of the world it decreased by about 7%. Over the same period, GDP per head of population fell from USD 595 to USD 581. The number of people living in extreme poverty in sub-Saharan Africa has almost doubled, from 164 million in 1981 to 315 million in 2000. In West and Central Africa, extreme poverty affects around 40 to 45% of the population (REPA, 2005). Furthermore, 33 out of the 49 countries classified by the UN as “least developed countries” are in Africa (OXFAM, 2005). It should also be noted that poverty has a severe impact in rural areas, where 70% of the poor population live in a situation of extreme poverty.

There is a direct link between the performance of the agricultural sector and the degree of poverty of the population of countries whose economy is largely

dependent on agriculture. Consequently it is the countries or regions where agricultural productivity has increased most that have attained the highest poverty reduction levels. This has been the case in part of Asia as a result of the green revolution, and according to DFID (2004) between 1961 and 2001 cereal production in developing countries rose from 309 million tonnes to 962 million tonnes as a result of an increase in productivity from 1.2 tonnes to 3.3 tonnes per hectare, while agricultural production per head of population over the last 20 years has fallen by 0.34% in sub-Saharan Africa, and this situation has a major adverse impact on the survival of rural households because of the crumbling of incomes and exacerbates food shortages (REPA, 2005). One of the consequences of this situation is the failure of production to meet the needs of the population and the increase in food dependency of sub-Saharan Africa, which currently imports around 20% of its needs. According to Berthelot (2005), the value of food imports rose by 14% between 1995 and 2002, while that of exports fell by 10%. With specific reference to cereals, the volume of imports increased by 58% and that of rice by 46% because prices fell by 27% and 35% respectively.

It should be emphasised, however, that this somewhat alarming overall picture needs to be qualified, since performance levels vary quite widely from one region to another. With regard to West Africa, it can be seen that the performance of the agricultural sector varies substantially according to agricultural products and countries. To take an example, while an appreciable drop has been observed in production per head of certain traditional local cereals such as millet and sorghum, particularly in the Sahel countries, increases, in some cases spectacular, have been seen especially for tubers and cowpeas, so that while food production per head has not increased, it has at least been maintained in many countries in this sub-region (see Table 10). The situation is also highly variable for commercial crops. Some of these (cotton, cocoa and groundnuts in particular) have continued to be subject to very strong State intervention, despite the adjustment and liberalisation policies that have contributed to an increase in production due to the combined effect of the increase in land area and in productivity, as in the case of cotton, production of which showed a ten-fold increase between 1960 and 2005 (SWAC, 2005). However, these commercial sectors face a mounting crisis largely due to the fall in world prices. Finally, despite the various droughts which have followed one after another, the total number of livestock has increased in line with the population, that is to say by between 2 and 3%.

Table 10: Change in per capita production of major food crops, 1961-63 to 1997-99 (percent)

Country	Cereal crops	Root and forest crops	Change
Ghana	Rice, maize, millet, sorghum		+ 59.8
		Cassava, yams, plantains	+ 66.3
Nigeria	Rice, maize, millet, sorghum		- 1.2
		Cassava, yams, plantains	+ 76.3
Mali	Rice, maize, millet, sorghum		- 2.6
Niger	Rice, millet		- 24.2
	Cowpeas		+131.2
Cote d'Ivoire	Rice, maize, millet		+ 30.5
		Cassava, yams, bananas, plantains	- 28.5
Senegal	Rice, maize, millet, sorghum		- 41.2
		Cowpeas	+ 33.3

Source: Toulmin and Guéye (2003)

3. 1 Causes of the decline in agricultural performance and the increase in rural poverty

The performance of small-scale family farms is constrained by several factors, the most critical of which are external and concern both national and international policies and environmental conditions.

3.1.1 Causes linked to national policies

Agricultural policies are heavily influenced by options in relation to economic and social development and the priority given to the various agricultural sectors. In Senegal, for example, the decline of around 40% in cereal production per head between 1960 and 2000 is largely due to political choices that have always favoured urban consumers by prioritising imports of cheap rice to the detriment of consistent investment to support local cereal production. In the period after 1996, the cost price of rice grown in Casamance villages was estimated to be five times the market price if account is taken of all costs: transport, loss of earnings of those who emigrate, tying-up of capital for storage etc. (SWAC, 1996). Despite the effort put into relaunching this sector since the devaluation of the CFA franc in 1994, the country still imports around 800,000 tonnes of rice, while local production only meets around 20% of needs (IFAD, 2005). At the same time, the level of food self-sufficiency has fallen from 138% in 1960-63 to 79% in the 1990s (Broutin

et al., 2000). This food bill weighs heavily on the meagre State budget and represents a large loss of earnings for the rural sector. Similarly, in Niger the development of the agricultural sector has long suffered from the priority given to uranium as the pillar of the economic and social development of the country. Unfortunately, the decline in this sector has coincided with the establishment of structural adjustment policies in the 1980s and the devaluation of the CFA franc in 1994.

In addition, the wish of many African countries to try to reproduce the Asian model comes up against the complexity of the constraints specific to the region, such as the smallness of the markets, the more heterogeneous agricultural climatic conditions, the more marked deterioration in international market conditions with the fall in prices for staple products and the concentration of power, as well as the emphasis put on market liberalisation which has been resulted in the State pulling out of the funding of agriculture (Dorward et al. 2005).

Table 11: The major causes of hunger and the barriers to reduction in rural poverty

Scale	Fields	Determining factors
Local and national	Marginalisation	<ul style="list-style-type: none"> • Distance (towns, markets and infrastructures) • Environment (soil quality, access to water for irrigation, erosion etc.) • Access to services (agricultural extension and advice, credit, storage infrastructures, access to markets etc.)
	Access to production resources and tenure policies	<ul style="list-style-type: none"> • security of tenure for the majority or concentration of tenure • access to land for the landless, seasonal migrants, small producers. • Access to water and fishing areas • Access to biological diversity
	Budget allocation	<ul style="list-style-type: none"> • Priority choices in relation to public investment • Budget transparency • Orientation of public development assistance
	Rural employment	<ul style="list-style-type: none"> • Diversification of job opportunities • Labour legislation • Social security
	Other policies	<ul style="list-style-type: none"> • Structural adjustment • Attracting Direct Foreign Investment (DFI) • Privatisation of basic services
International	Prices, dumping	<ul style="list-style-type: none"> • Extractive industries • HIV/AIDS • Export subsidies and other dumping policies (food aid) • Comparative advantages acquired • Other market-distorting measures
	Markets	<ul style="list-style-type: none"> • Degree of concentration of powers • Imperfect competition (monopolies, oligopolies etc.)
	Political dialogue	<ul style="list-style-type: none"> • Conditions attached to budget allocations, tenure policies and reforms, laws on extractive industries, macro-economic guidance • Possible ways of strengthening the power of large companies in a context in which they have high negotiating power.

Source: Windfuhr et al. (2005)

3.1.2 Causes related to weak consideration given to agriculture in the DSRPs

The adoption of poverty reduction strategies and the Millennium Development Declaration launched in 2000 ushered in a new era in which instead of the usual sectoral reforms, the community of backers appears to opt for the creation of synergies for the various sectors, structuring their actions around a number of common aims principally geared towards poverty reduction. But for many development actors, these new options take on the appearance of a new form of adjustment because, once again, they result more from a decision by the backers than from a deliberate choice by African states. In addition, the use of resources made available in the framework of the HIPC initiative is subject to such limiting conditions that many countries still find it difficult to make use of them in accordance with national priorities. Finally, these strategies have not been conceived and implemented in a sufficiently inclusive way to enable the rural organisations to influence the contents of these programmes, hence the inappropriate nature and lack of targeting of actions on behalf of the groups who most need them. Fall (2005), analysing the linkage between the PRSPs and agricultural policies in West Africa, shows a number of limits. Firstly, the sectoral agricultural programmes (rural infrastructure programmes, agricultural services support programmes etc.) which preceded the Poverty Reduction Strategies do not tie in with these but are implemented in parallel. Secondly, the targeting of poor and vulnerable groups has paradoxically not been addressed adequately in the PRSPs and in agricultural policies. Thirdly, the re-emergence of a development service within the technical ministries remains an unfulfilled prerequisite for the restoration of State public services in the fight against poverty. Structural adjustment policies have led to a weakening of the ability of the State to intervene. In Niger, for example, the ONPV, which has played such a vital role in regulating cereal markets and distributing food aid during crisis periods, has seen a reduction in its staff numbers from 600 in the 1980s to around thirty today, which has reduced its ability to intervene. Finally, the structure of inequality underlying poverty has not been addressed either by the PRSPs or by agricultural policies. These inequalities relate for instance to the issue of tenure reform, the position of small-scale family farms, gender inequality, market access etc.

3.1.3. Causes linked to structural adjustment policies and market liberalisation

But it is without doubt structural adjustment policies that have had the most dramatic consequences for rural producers. With the closing-down of public access programmes for credit to purchase seeds, fertilisers and agricultural equipment, as well as the dismantling of marketing offices, smallholdings, which make up more than 80% of farms, have been unable to invest consistently in improving their production technology and have been obliged in most cases to adopt agricultural extensification strategies with all the consequences these have for the management of natural resources. By way of illustration, average fertiliser consumption was 16 kg/ha in sub-Saharan Africa, with the lowest levels found in Central Africa (around 3 kg/ha) and the Sahel (around 4 kg/ha) (Kelly, 2005). Only commercial agricul-

ture has been able to derive some advantage, as the pull-out by the State has only partially affected the large exporting industries. In Senegal it has been observed that, because of this change in policy, peasants had an interest in increasing groundnut production: profitability in terms of land area and labour was 1.6 and 1.4 times higher than in the case of cereals. These policies are factors which explain the trend towards a decline the yields of the main cereal crops. While in other regions of the world 80% of the increase in food production is due to the increase in agricultural productivity, in Africa it is expansion of cultivated land areas that explains 70% of such increases (Dorward, 2004).

In addition, the establishment of adjustment programmes has been accompanied by a large decrease in public development aid intended for agriculture. Despite an increase of 65% in the total volume of Public Development Aid, from USD 37.1 billion to USD 61.4 between 1980 and 2002, the share of agriculture (expressed in 2002 dollars) has fallen from USD 6.2 billion to USD 2.3 billion, or as a relative value from 17% in 1982 to 3.7% in 2002. Africa's share has fallen by half over the period under consideration. This situation has contributed substantially to the decline in investment in favour of the agricultural sector, and Africa is the only region where investment per person employed in agriculture in research has continued to fall since 1970. This ratio fell from USD 11.3 in 1976 to USD 9.4 in 1995, while it rose from USD 3.8 to USD 10.2 and from USD 26.0 to USD 45.9 for Asia (excluding China) and Latin America respectively (Jowet et al., 2004). The low level of resources allocated to agriculture has consequently not allowed consistent investment in technology through the funding of research, agricultural extension, access to credit, the establishment of markets etc.

Table 12: Trend in PDA in favour of the agricultural sector.

	Agricultural public development aid (billion \$)	Total Public Development Aid (billion \$)	%Agricultural public development aid
1980	6.6	37.1	16.7
1985	6.6	40.0	16.6
1990	5.4	44.8	12.0
1995	3.0	38.9	7.6
2002	2.0	61.4	3.7

3.1.4 Causes linked to unfair rules in international trade

International trade has had a dramatic impact on small-scale African producers over the last ten years. The problems largely result from infringement of trade rules by European countries and the United States, whose subsidies granted to their producers make African agricultural products uncompetitive. Some 1-2 million families in Africa produce cotton and around 16 million people depend directly or indirectly on cotton production. Global production rose from 200,000 tonnes

in the 1970s to around 1,037,000 in 2003. Unfortunately, world prices have tumbled by half since the mid-1990s. These prices today are at their lowest level since the great depression of the 1930s. This has had a dramatic impact on West African economies, and it is estimated that this fall in prices has caused a loss of export revenue of the order of 12%, 8% and 9% for Burkina Faso, Mali and Benin respectively, equivalent to 1%, 1.7% and 1.4% of their GDP (OXFAM, 2002).

Table 13: Change in world prices for primary products, 1970-98 (%)

<i>Staple product</i>	Period			
	1970-80	1980-90	1990-98	1980-98
Cotton	13	- 36	- 24	- 51
Cocoa	35	- 65	27	- 55
Coffee	5	- 74	48	- 61
Palm oil	- 22	- 64	123	- 20

Source: Toulmin and Guéye, 2003

In addition, Minot and Daniels (2002) show that a 40% reduction in cotton prices in Benin could lead to a rise in the incidence of poverty from its current level of 37% to 59% among cotton growers and from 40% to 48% for all producers. One of the first responses of the producer to the fall in prices is to increase the land area under cultivation to preserve a more or less stable level of income. This puts further pressure on tenure resources, since the price levels do not provide an incentive to invest in order to improve the technology. Technology plays a major role in the performance of farms (see Table 13). Other sectors such as meat, dairy products and cereals suffer from the same types of distortion, and international trade rules are among the most significant factors in reinforcing rural poverty in Africa.

Box 7: European dumping on the poultry market

The European agricultural sector faces a number of difficulties: job losses and displacement of populations, declines in gross profit margins, fierce competition from emerging countries (Brazil and Thailand). Agri-food companies are in an awkward situation which compels them to export more. European exports to Africa amount to more than 9 million poultry a year. In Senegal, the volume of exports of frozen chicken has increased ten-fold in five years, from 11,950 tonnes in 2003 to 1,137 imported tonnes in 1999. In addition, it is estimated that between 1995 and 2002 around 70% of poultry farms have been forced to close. In Cameroon, the volume has increased from 976 tonnes of frozen chicken in 1996 to 22,154 tonnes in 2003. This phenomenon is due to several factors. First of all, the massive importing of chickens is partly due to the crisis the European market is currently experiencing. The export product is sold at 0.5 euros per kg in Africa,

while local chicken is sold at between 1.80 and 2.40 euros. Small-scale African farmers are forced into bankruptcy by these dumping practices. According to a study conducted in Cameroon in 2002, only 8 in 100 farmers met in 1996 were still involved in agricultural activity in 2002. These difficulties have repercussions for the many jobs linked to the industry (hauliers, pluckers).

Source: Vacher, 2004

Table 14: Performance of farms according to size and level of mechanisation, CMDT region, Mali

	One tractor only	At least two pairs of oxen	A single pair of oxen	Labour
Number of cases studied	25	15	15	15
Number of persons/farm	31.2	15.3	15.3	15.3
Total agricultural land area (ha)	34.8	15.9	15.9	15.9
Agricultural land area/person (ares)	112	104	104	104
Total days of work/person	88	89	89	89
Total days of work/ha	79	86	86	86
Net income from agriculture in CFA francs	1 018 000	436 000	436 000	436 000
Net income from agriculture: CFA francs/ha	29 000	27 000	27 000	27 000
Net income from agriculture: CFA francs/person	33 000	29 000	29 000	29 000
Net income from agriculture from agriculture: CFA francs/day of work	372	320	320	320

3.1.5 Causes linked to climatic conditions

Climatic conditions are another factor determining the performance of the agricultural sector in Africa. Some countries obviously face greater variability than others in rainfall from one year to another. Overall, rainfall, ground cover and vegetation have undergone great changes throughout West Africa over the last 30 years. The arid Sahel region has been most affected by the changes in rainfall patterns, owing to a fall of 20 to 30% in expected rainfall between 1931-60 and 1961-90 (Hulme, 1996) and more unpredictable seasonal distribution. The droughts of the 1970s and 1980s led to large-scale migration of crop and livestock farmers towards the south in a search for areas with more ample water. This led to the clearing of many areas of forest land in coastal and savannah regions, as well as the displacement of a large number of farmers in heavily populated regions towards less densely populated areas, in a search for land. It is estimated, for example, that in Ghana cultivated land only occupied 14.5% of the national land area in 1961, compared

with 25.5% in 1995. This increase in land area is due to several factors, including demographic growth, migration as has happened in the west and south-west of Burkina Faso, where more than 80% of the land is farmed by people who have come from elsewhere, agricultural mechanisation, re-conversion in agriculture of certain groups such as livestock farmers after the droughts (Toulmin and Guéye, 2003). Some countries are experiencing a particular situation. Only 12% of the territory of Niger is suitable for agriculture, while the size of the territory (around 1,200,000 km²) imposes a constraint as it requires high financial input to establish the infrastructures necessary to facilitate access to markets for the population.

4. Some aspects of agricultural policies in favour of smallholdings

Both retrospective and prospective reflection is necessary to define suitable policies, as the changes that have taken place over the last few decades, major trends and current challenges which are becoming apparent for the next few years are key elements to be taken into account in policies to be formulated.

4.1 Principal changes over the last 40 years

- Substantial increase in the area of cultivated land resulting from the combination of several factors, including demographic growth, migration, mainly extensive crop-growing practices, the development of mechanisation and the settling-down of certain nomadic populations who have lost their livestock as a result of the various droughts. As the amount of cultivated land expands, available land is in increasingly short supply, particularly in areas of high potential. To take an example, the cultivated land area per farm in the area of the Office du Niger has decreased from 7.5 ha in 1978 to 2.49 ha in 2002, a period during which the number of beneficiary families rose from 5,000 to more than 23,000, representing an increase of more than 400%, while the developed land area increased over the same area by less than 60% (Coulibaly et al, 2005).
- The environmental changes that have taken place, with a decrease in rainfall of around 20 to 30% between the periods 1931-60 and 1960-90, particularly in the Sahel part of West Africa. This situation has contributed to agricultural migration and bringing new areas of land into cultivation.
- An increase in conflicts related to access to natural resources in several areas; some of these at first locally restricted conflicts have taken on a national dimension (Côte d'Ivoire) or a trans-boundary dimension (Senegal-Mauritania in 1989). It will take several years to resolve the problems related to such massive population movements. Senegal, for example, still harbours several thousand refugees in the valley of the River Senegal, where pressure was already great.
- The devaluation of the CFA franc in 1994 had an adverse overall impact, because although it initially gave a boost to certain sectors such as livestock farming, by

improving their competitiveness, this bright period was a brief one owing to the devastating effects of subsidies on important animal products. It also had the effect of raising prices for agricultural inputs and limited the opportunities for small producers to invest.

- The urban population has grown particularly rapidly in West Africa. At the current rate of population growth (2.7% per annum), the population will double in the next 25 years, leading to a two-fold increase in demand for food. In 1969, the urban population of West Africa only accounted for 13% of the total population, while in 1990 the small and large towns contained 40% of the total population and it is predicted that 60% or more of the region's population will live in an urban setting in 2020 and there are likely to be 300 towns and cities with more than 100,000, compared with 90 in 1990 (Toulmin and Guèye, 2003). However, this population growth creates market opportunities and encourages investment to increase agricultural productivity. An illustration drawn from the Maradi Department in Niger is presented in Box 8.

Box 8: Population growth as a factor in agricultural intensification

A study conducted in the Maradi Department by Mortimore et al. (2001), covering the period 1960-2000, showed that despite the combination of certain factors such as the deterioration in rainfall patterns, increased competition for land tenure resources, increasingly severe shortages of animal manure and of crop residues and labour shortages due to the rapid expansion of cultivated areas, farmers in the Maradi Department have broadly succeeded in maintaining cereal production per inhabitant over the period under consideration at around 260 kg/inhabitant, a far higher level than the minimum level usually required of 200 kg/inhabitant after threshing and storage losses. This performance results from a combination of several factors. Firstly the growth in population density in rural areas may make a process of agricultural intensification easier owing to an increase in agricultural labour per ha, growth in markets and lower interaction costs. Secondly, better access to profitable urban or external markets may provide incentives and funds for peasant households, persuading them to invest in improvements in productivity and conservation of natural resources. Thirdly, technical change and the diversity of appropriate technical options are facilitated by the growth of the population, urbanisation, interaction and the circulating of information. Fourthly, in a context in which there is an increasing shortage of land, the response of increasing agricultural productivity favours integration of livestock breeding with crop-growing and the protection of ligneous products on land occupied by rain crops. Finally, the diversification of income, together with access to education and temporary or permanent migration, may enable funds to be generated which may be invested in the agricultural sector, and may also form a major part of integrated strategies used by households to provide their subsistence.

Source: Mortimore et al (2001)

- Large social changes are also observed. They relate to a fragmentation of large families into smaller units and increasing individualisation of risk and crisis management strategies. In many cases these small family units have moved into other areas where, with agricultural wage-earners and other seasonal activities, they have attempted to create capital of their own (equipment, land etc.). However, although this strategy allows the effects of crises to be managed in terms of the economic cycle, they increase the vulnerability of these small units which are often created in structural situations of insecurity of tenure and loss of the advantages offered by the wider family. A strengthening of the economic role of farms has also been observed, particularly through their involvement activities downstream of production, such as processing and sale of agricultural produce.
- The emergence and strengthening of peasant organisations which have become essential parties in the definition and implementation of agricultural policy in Africa is another significant change observed over the last 30 years.
- Obtaining of food consumption models from outside has developed in the urban setting and increasingly affects rural areas. In West Africa rice, most of which is imported, is increasingly becoming established as a staple food and is increasing the food dependency of the region. This situation results from a combination of several factors such as the weakness and irregularity of the supply of local cereals, their high price during certain periods, the lack of an organised marketing system and problems related to processing, while rice is a ready-for-use product.
- The diversification of income sources and the increasingly important role of migration, whether it is seasonal or long-term. In the large areas of emigration in Senegal, Mali, Burkina Faso and Mauritania, transfers resulting from migration have become the principal source of cash income.

4.2 The principal trends and new challenges

Certain changes which have been apparent in the last few decades will certainly continue in the future. This applies particularly to population growth, the speeding-up of processes of urbanisation and consequently the increase in demand for food. Other changes which are becoming increasingly clear will be reinforced. These are strengthening of the role of the private sector in agricultural development, the increasingly important position of good governance and inclusion in the formulation and implementation of agricultural policies, the professionalisation of peasant organisations, the development of information and communication technologies which can facilitate access to information on markets, the role of sub-regional organisations such as NEPAD, ECOWAS and UEMOA in the harmonisation of national agricultural policies and in the process of the strengthening of economic integration. However, there is a risk that a number of challenges will pose major obstacles to the development of agriculture in Africa. The following may be mentioned in particular:

- Strengthening of the concentration of economic powers in the hands of a small number of increasingly integrated multinational companies, which will boost their power to control both the trade in agricultural products and the trade in the principal input materials. Among the main consequences, mention may be made in particular of the speeding-up of the process of States ceasing to have the legal right to formulate agricultural policies, loss of income and exacerbation of the dependency and vulnerability of African peasants. According to Osorio (2002), as a result of the concentration there are significant imbalances between consumer prices and prices paid to producers. In the coffee sector, producer countries received around 10-12 billion dollars in revenue in the 1990s, or around a third of the total value. Today, income obtained by exporting countries has fallen by half (to around 5 billion dollars), while the income of distribution chains has doubled.
- There is a risk of the opening-up to competition of African markets under the EU-ACP Economic Partnership Agreements, together with the strengthening of non-tariff barriers (health standards, standardisation etc.) to the entry of African products into the European market threatening the survival of African smallholdings. This risk is far greater than any benefit Africa might derive from the anticipated lifting of subsidies in 2013.

4.3 Some positive trends noted in the context and political debate

The question of the future of West African agriculture has been a major item on the agenda of regional and sub-regional organizations over the last few years. It is reassuring to note that the content of political debate has changed in a positive direction, particularly on particular issues which have long been controversial. These are, in particular, the role and position of smallholder farming in agricultural development in West Africa. The following are some examples of recent changes in political debates or the orientation of new legislation:

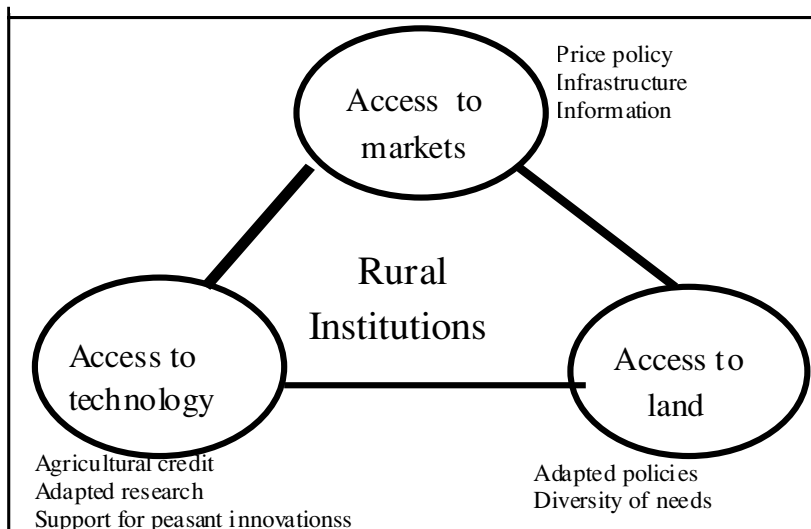
- The common agricultural policy of ECOWAS and come recent national agricultural legislation (Senegal, Mali) now recognize smallholdings as the principal pillars for the modernization of agriculture in West Africa. This issue has been the subject of much debate and has stoked the controversy involving representatives of peasant organizations and their partners on the one hand and certain political decision-makers for whom it is only through agri-business that the problems of African agriculture can be solved on the other.
- Other innovations relate to recognition of the occupation of crop or livestock farmer as a profession which must benefit from the same social protection mechanisms as apply to wage earners; recognition of pastoral mobility as a form of utilization and a sustainable method of management of natural resources in arid regions and the need to establish flexible and appropriate tenure policies.
- The agricultural policy of NEPAD recognizes the role that smallholdings can play in food security and at the same time urges African states to base themselves examples of good local practice in relation to agricultural innovation and to promote them, before initiating new programmes.

- The agricultural policy of ECOWAS recognizes the weakness of public investment intended for agriculture and asks states to increase the proportion of their budgets allocated to this sector to 10%. In so doing, it adopts an old demand of the peasant organizations.
- At the international level, limits in the implementation of PSRPs, particularly with regard to the involvement of rural population in reviews, have led some international institutions to consider strengthening the capacity of peasant organizations to allow them to establish their own mechanisms for monitoring the implementation of PSRPs, in order to ensure that the priority nature of agricultural development is reflected in the allocation of resources. In addition, the Paris Declaration commits European countries to increase the volume and effectiveness of aid to make it easier to attain the MDGs and gives itself the means and timetable to achieve this.
- At the level of communities, the response of mutual learning and networking to promote sustainable local innovations is becoming increasingly common.

These various developments represent openings and opportunities which the peasant organizations must seize to in order to persuade states and backers to put these various commitments into reality.

4.4 Principal elements for a West African agricultural policy

The aims and contents of agricultural policies must take account of the constraints faced by farms, the changes and new trends, as well as the challenges which now await West African agriculture. The principal elements are illustrated in Figure 13. There are several underlying arguments. Firstly, given the very high degree of food dependency of the region and the increasingly severe difficulties in gaining access to the international market, priority must be given to food security and sovereignty. Secondly, access to markets, improvement of technology and security of tenure are three key conditions for the development of West African agriculture. Thirdly, the fragility of the different ecosystems in the region, as well as the costs associated with acquiring certain inputs and equipment suggest that priority should be given to sustainable agricultural practices to preserve the environment. Finally the sustainability of policies will depend in large part on the existence of strong rural institutions which are capable of participating in the formulation and implementation of agricultural policies. From this point of view, it will be necessary for the role of peasant organization to be further strengthened in the future.

Figure 13: Basic conditions for adapted agricultural policies**Primary aim: food security****Transverse principle: Sustainable agriculture to conserve natural resources****4.4.1 Giving priority to food security and sovereignty**

The effects of market globalisation mean that the food issue today does not simply concern availability and physical accessibility but relates more to sovereignty in choice of agricultural and food policies. According to Windfuhr et al. (2005), food sovereignty relates to the right of populations to choose their food and their type of agriculture; to protect local agricultural production and trade with the aim of achieving the objectives of sustainable development; to define the degree of self-sufficiency they wish to achieve; to reduce the dumping of imported products. Food sovereignty does not repudiate trade, but it aims more to promote trade policies and practices which serve the rights of populations to healthy and safe food and to ecologically sustainable production.

Box 9: Via Campesina's Seven Principles to Achieve Food Sovereignty

- 1. Food: A Basic Human Right** – Everyone must have access to safe, nutritious and culturally appropriate food in sufficient quantity and quality to sustain a healthy life with full human dignity. Each nation should declare that access to food is a constitutional right and guarantee the development of the primary sector to ensure the concrete realization of this fundamental right.
- 2. Agrarian Reform** – A genuine agrarian reform is necessary which gives landless and farming people – especially women – ownership and control of the land they work and returns territories to indigenous peoples. The right to land must be free of discrimination on the basis of gender, religion, race, social class or ideology; the land belongs to those who work it.

3. **Protecting Natural Resources** – Food Sovereignty entails the sustainable care and use of natural resources, especially land, water, and seeds and livestock breeds. The people who work the land must have the right to practice sustainable management of natural resources and to conserve biodiversity free of restrictive intellectual property rights. This can only be done from a sound economic basis with security of tenure, healthy soils and reduced use of agro-chemicals.
4. **Reorganizing Food Trade** – Food is first and foremost a source of nutrition and only secondarily an item of trade. National agricultural policies must prioritize production for domestic consumption and food self-sufficiency. Food imports must not displace local production nor depress prices.
5. **Ending the Globalization of Hunger** – Food Sovereignty is undermined by multilateral institutions and by speculative capital. The growing control of multinational corporations over agricultural policies has been facilitated by the economic policies of multilateral organizations such as the WTO, World Bank and the IMF. Regulation and taxation of speculative capital and a strictly enforced Code of Conduct for TNCs is therefore needed.
6. **Social Peace** – Everyone has the right to be free from violence. Food must not be used as a weapon. Increasing levels of poverty and marginalization in the countryside, along with the growing oppression of ethnic minorities and indigenous populations, aggravate situations of injustice and hopelessness. The ongoing displacement, forced urbanization, repression and increasing incidence of racism of smallholder farmers cannot be tolerated.
7. **Democratic control** – Smallholder farmers must have direct input into formulating agricultural policies at all levels. The United Nations and related organizations will have to undergo a process of democratization to enable this to become a reality. Everyone has the right to honest, accurate information and open and democratic decision-making. These rights form the basis of good governance, accountability and equal participation in economic, political and social life, free from all forms of discrimination. Rural women, in particular, must be granted direct and active decision-making on food and rural issues.

Source: Windfuhr and Jonsén (2005)

From this point of view, in addition to promoting the production of local cereals through the establishment of various incentive measures, national consumers will have to be protected against products the consumption of which entails risks and to ensure that the principles outlined in Box 9 are applied.

4.4.2 Facilitating access to markets

With globalisation, African peasants are in a situation in which they do not have any control or influence over the rules that govern the international market. Drawing the implications of this situation, peasant organisations argue that states should give priority to national, sub-regional and regional markets. This involves, among other things, better protection of national markets against the dumping

of European and American products (taxation, limitation of imports of particular products, application of food standards following the example of European countries in particular with regard to poultry or certain dairy products which pose threats to the health of populations). From this point of view it will be necessary to explore the openings offered by WTO documents, because measures of this kind will only be possible if they tie in with regulations governing international trade. But the decision recently taken by the Cameroon government to prohibit imports of poultry pieces shows that openings do exist. It will also be necessary to establish infrastructures to facilitate the movement of products within countries and between countries and incentive measures for local cereal production (minimum guaranteed price to the producer, investment programme to improve processing methods etc.).

4.4.3 Improving technology and favouring sustainable agricultural practices

To face up to the challenges associated with the increase in local demand for agricultural products and the demands of competitiveness, emphasis will have to be put on increasing productivity through an improvement in technology. The significance of the increase in agricultural production and productivity in the fight against poverty is widely recognized by most parties involved in rural development. Dorward et al (2004) emphasise impacts such as the increase in rural incomes, the lowering of food product costs which take up most of the budget of poor households, stimulation of the non-agricultural economy in the rural setting through ways of diversifying activities and support for the establishment of progressive economic transition to move from an agrarian economy to a service and processing economy.

Today, the issue of investment to improve the productivity of African agriculture features among the main priorities of agricultural policies. The policy of NEPAD identifies the improvement of technology as one of the pillars in the development of sub-Saharan agriculture. However, to increase the productivity of the agricultural sector it is necessary to step up investment in favour of agriculture well beyond its present level and to give priority back to agricultural research. Lessons must, however, be drawn from past experience in relation to technology transfer, making the programme-formulating processes more inclusive. From this point of view, it will be a matter of institutionalising the participative development of technology which takes as its point of departure peasant innovations and which, through close partnership between researchers, peasants and extension workers, contributes to the development of technologies that meet specific constraints and needs. Finally, in the specific case of West Africa, where access to and control of water are governing factors in agricultural productivity, appropriate technologies which allow this constraint to be increased or reduced must be strongly supported. The region is well endowed with innovative experiments in which sustainable solutions have been developed with notable levels of productivity. Some of these innovations have taken place as a result of support for partner structures (PATECORE and PAF on the central plain of Burkina Faso being examples),

while others are the result of internal initiatives which reflect the ability to innovate and degree of resilience of rural populations.

Although technologies which make use of external inputs are to be favoured in certain circumstances, the specific features of the production environment of the majority of poor peasants in West Africa (little access to markets and input materials, small economies of scale, extensive agricultural practices etc.) suggest that particular attention should be given to sustainable agricultural practices. The latter are based on utilising the individual know-how and skills of peasants, as well as existing local social capital to solve common problems. The technologies developed are appropriate to the local contexts and conditions and are often the outcome of the innovation and ability to adapt of agricultural systems in the face of risk and uncertainty. They are based on utilisation of the potential of existing natural resources and are deserving of being promoted since access to external inputs still remains difficult owing to the dramatic reduction in State support for the agricultural sector. According to Pretty and Hines (2001), the following sustainable agricultural practices may contribute to improving agricultural productivity:

1. Intensification of a component part of the agricultural system (without a substantial change in the other component parts) such as the production of vegetables or fruit or grazing
2. Addition of new production component in the system, such as fish-farming or agro-forestry, which allows total production and operating incomes to be increased without any major impact on cereal productivity
3. Better use of natural capital to increase total farm production, particularly the collection of rainwater or improvement of irrigation systems, or the restoration of degraded land, allowing the area of cultivated land to be increased or production to be intensified on areas of land already occupied.
4. Increasing productivity per ha through the introduction of new regenerative elements, such as the integrated pest control.
5. Increasing productivity per ha through the introduction of new varieties or species suited to local conditions

4.4.4 Establishment of suitable tenure reforms

Land is the most precious asset for poor rural populations. Guaranteeing access to land tenure is a key condition to enable producers to invest in technology, improve the productivity of their farms and improve their livelihood. Insecurity of tenure and difficult access to relevant natural resources (water and pasture) are major factors in deciding who wins and who loses in the processes of agricultural change and in the dynamics of conflicts (Hussein et al., 2005). Any policy which aims to develop agriculture in Africa must give priority to tackling a reform of tenure, based on principles of fairness. However, on the ground several situations involving pressure relating to tenure are observed which have the potential to result in conflict, and their complexity must be carefully considered in the tenure policies to be established. Firstly, the rapid growth of African towns and the demand for agricultural products to which this leads have

Box 10: Investment in soil conservation bears fruit in Burkina Faso

The central plateau of Burkina Faso has undergone many changes over the last 20 years (Chris Reij, Vrije Universiteit, Amsterdam, personal communication.). With annual rainfall of 500 to 700 mm, it is characterised by poor soils and a high population density (up to 100 people per km²). In 1980, this region was considered to be the most severely affected in Burkina Faso. Vegetation was disappearing rapidly, cereal yields averaged 400 to 500 kg per hectare, the level of the water table was rapidly falling, while between 1975 and 1985 up to 25% of families left the villages to settle in regions with better potential. The development of soil and water conservation (SWC) methods over the last 15-20 years has contributed towards remedying some of these problems and has led to substantial improvements, in particular:

- Yields of sorghum and millet have greatly increased and the food security of households has improved.
- The process of deterioration of vegetation has been halted on farmed plots of land on which the soil and water conservation techniques have been adopted (more than 100,000 ha restored).
- increased investment in livestock by men and women is observed, as well as more intensive livestock production, producing more manure to improve soil fertility.
- More fodder is available for livestock, as a result of the regeneration of vegetation.
- A large number of villages have noted a rise in water levels (+ 5 m or more), as a result of the increased infiltration of rainfall and runoff.
- Rural-rural and rural-urban migration has decreased since the SWC programmes started.
- The organisational ability of villagers has improved.
- The local population considers there to have been a substantial reduction in rural poverty (up to 50%) between 1980 and 2002.
- The cumulative impact of SWC is also observed in agricultural statistics at provincial level. In the province of Bam, for example, the cultivated land area has not increased as predicted, but has decreased slightly since 1989, while cereal yields have gone up by 50%.

If villages with and without SWC are compared, it is clearly apparent that the introduction of low-cost SWC, by reducing risks and boosting productivity, has made a great contribution to triggering agricultural intensification and improvement of the environment. Other factors are also involved. The devaluation of the West African currency (the CFA franc) in early 1994, for example, stimulated investments in livestock, while improvement of the major roads linking Ouagadougou and the two regional capitals reduced travel costs and allowed traders in Côte-d'Ivoire, Ghana and even Nigeria to send their trucks to the province of Yatenga to buy seeds, dolichos and vegetables.

contributed to the development of highly dynamic peri-urban agriculture which is, however, accompanied by heavy pressure on tenure due to multiple uses. In many cases small landowners have been forced to give up their land under pressure from political or financial lobbies. Secondly, areas of high agricultural potential increasingly attract new agricultural entrepreneurs, known as “new actors”. The latter occupy large areas of land which have often been acquired with the complicity of the traditional powers to the detriment of small producers. Studies conducted recently in Burkina Faso, Senegal and Niger (Ouedraogo, 2001; Touré, 2004) have shown a low level of utilization of this land of around 30% and low economic performance and adverse impact of crop-growing practices on the environment. Thirdly, in areas used for herding, the moving of the boundaries of agricultural areas is leading to a steady reduction in areas used for herding livestock. This situation is leading to an increase in conflicts between arable and livestock farmers, some of which end in a bloodbath (as was recently the case in Niger). Fourthly, in areas in which agricultural migrants settled several years ago, economic difficulties have forced native populations who were previously involved in other activities into agriculture. In some countries this has led to the rights of populations considered to be non-native to be questioned.

The complexity of the situation in the implementation of tenure policies is therefore clearly apparent. It is consequently important to make sure that the technical debate (register of land tenure as opposed to a more flexible system) does not cover up far more important aspects relating to strengthening of the role of land tenure in local development. Several experiments show that in the rural setting title is neither necessary nor sufficient for security of tenure. On the contrary, the emphasis must instead be put on strengthening local institutions responsible for land management and conflicts related to this, in particular new institutions resulting from decentralisation. The best systems for ensuring security of tenure are those that are based on systems known to the community concerned and in addition are simple, endogenous and flexible (Quan et al., 2005). It is thus apparent that tenure policies must take account of the diversity of situations and retain some flexibility in application so that they can be adapted to constantly changing situations.

4.4.5 Strengthening the organisations of producers and their participation in the definition of agricultural policies

The peasant organisations in West Africa have become strong structures with a good ability to make proposals and negotiate. Several factors have contributed to this trend. Firstly, in contrast to the cooperatives set up by the state, the peasant associations have resulted from awareness among the local communities which, in response to the failure of the State, have felt a need to learn to look after themselves. Secondly, the various droughts and policies of pulling-out of commitments by the state advocated in the 1980s have enabled populations to accept areas of responsibility vacated by the state; they have consequently taken on functions tra-

ditionally fulfilled by the state, such as setting up credit programmes for inputs and gap bridging, the technical training of peasants, strengthening of their role in setting up extension programmes etc. Thirdly, following the model of other organisations in civilian society, it benefits from the enlargement of areas of expression in many West African countries. This development has taken place on various scales. First of all, at the national level, peasant organisations have understood that they will have greater power to exert influence if they are able to pool their forces. It is for this reason that, particularly in the various French-speaking countries of West Africa, there are central national organisations that represent rural producers. They have also quickly come to understand that their credibility will depend on their ability to make proposals. In this context, most of the national organisations have an executive branch composed of technical staff recruited and given responsibility for supporting them in formulating proposals on topical issues. Finally, this organisational effort at national level has been extended at the regional level with the setting-up of ROPPA, which is given responsibility among other things for ensuring that initiatives taken in the various countries are coordinated and in particular for representing peasant organisations on regional and sub-regional bodies responsible for formulating agricultural policies.

The boosting of the power of peasant organisations to exert influence can be illustrated by several recent examples. Recognition of the role of small-scale family farms in the modernisation of agriculture in the agricultural policy of ECOWAS is the result of a battle waged by the peasant organisations, since until recently several West African decision-makers still harboured firmly-held prejudices about family farms, which they considered to be archaic and incapable of driving the transformation of agriculture. In Senegal, the peasant organisations have persuaded the government to withdraw from the Agro-Silvo-Pastoral Act the part concerning land tenure, arguing that this does not conform to their vision and that it was necessary for it to be discussed in the context of wider agreements involving all the parties concerned. More recently, these same organisations have organised a march to protest against the delay in starting the groundnut marketing campaign.

This development of the peasant organisations must be regarded by national governments as an opportunity and not as a threat. With this in mind, it is particularly important that strengthening these organisations should be a key element in agricultural policies. In a context of steadily increasing liberalisation in which the role of the private sector is being boosted, only strong and representative organisations can help small producers to make their voices heard.

5. Conclusion

African agriculture is facing many challenges and it is likely that new ones will emerge in the future. To address these challenges very sound policies are needed both at national and regional levels. It is reassuring to see that the potential for growth remain high in most part of Africa and that the policy environment has been improving over the last few years as awareness amongst policy makers on the need to give more attention to the agricultural sector is raising. The same can be said regarding the sub-regional and regional organisations. Hopefully this will, without further delay be translated into concrete actions. Moreover, many initiatives have been happening at local level by the small farmers themselves to improve their livelihoods through the development of sustainable technologies, including institutional innovations, that new policies should build in. That is the reason why, this communication pledges for the design of policies more responsive to the needs and specificity of family farming and the strengthening of the rural organisations as a key element of the strategy to fight rural poverty in the region. The role of the international community will however remain critical because most of the constraints that hinder the agricultural development in Sub-Saharan Africa stem from unfair international market relations. Without genuine commitment from the European countries and the United States and an international collective effort by the development agencies, it will be difficult to lift these constraints. In the meantime, African countries should explore all possibilities to develop domestic and regional markets in order to loosen the trap into which the world market keep the small farmers.

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6. Discussion African policies in support of small-scale agriculture

6.1 Willie Odwongo and Edward Henemann*

Odwongo began his discussion by presenting what he argued was a number of definite statements on agriculture in Sub-Saharan Africa. Firstly, it deals with smallholders, subsistence farmers who cannot take advantage of scale, although the sector involves a large number of people. Moreover, smallholder agriculture involves very remote areas, complex and risky livelihoods where multiple causes of poverty can be identified. Secondly, a mission should be to transform this agriculture to move towards commercially oriented agriculture. Lastly, the challenges of globalization need to be taken into consideration in this context.

To accomplish the mission of enhancing the commercial orientation of Sub-Saharan smallholder agriculture a set of key issues and questions need to be resolved. Poor peoples' unique assets need to be identified. The issue of how high-yielding technologies can be configured so that they become more smallholder sensitive also needs to be resolved. Improving smallholders' access to productive assets in general also requires attention. How to handle crosscutting issues of gender is crucial in this respect. Lastly, the key role of the public sector needs to be determined.

In sum, argued Odwongo:

- A *market orientation* is necessary for achieving agricultural growth (in contrast to the more pro-government role indicated in Bara Guèye's paper)
- The *policy aspects* for this reason need more attention than given in the paper. An approach to achieving the mission should be multi-sectoral, multi-disciplinary, country-driven, owned and driven through broad-based participation, comprehensive, recognizing the multi-dimensional nature of poverty and have a medium, to long-term focus. In Uganda for instance, the Plan for Modernization of Agriculture (PMA) has faced a number of challenges: thinking across sectors, very large resource requirements and very high expectations from the public.

Ed Heinemann's discussion focused on:

- The *unique experience of West Africa compared to other parts of Africa*. Heinemann began by identifying a number of aspects on which West Africa differs from other parts of Africa. For instance most people in East Africa do not live in drought-prone areas. Another difference is that intensification and specialisation occurs when farmers have faith in markets as has been the case in West Africa. The devastating consequences of Hiv/Aids were also raised as a differentiating factor between East and West Africa. As well, the positive aspects of an emerging, West African, rural civil society as epitomised by ROPPA was contextualised.
- Heinemann agreed with Bara Guèye on the highly crucial issue of *land access*

* Willie Odwongo, Director, Plan for the Modernisation of Agriculture, PMA, Uganda, and Edward Heinemann, Regional Economist, International Fund for Agricultural Development, IFAD.

and security of land tenure, as yields are 30 per cent lower on land which has insecure tenure. Insecurity of tenure also has negative effects on management of natural resources and the issues of community and social structure in the context of increasingly scarce natural resource availability are also important to take into consideration.

- The *role of the PRSPs* was commented on and the scope for improvement in the second round of PRSPs in terms of consultation with civil society and a stronger agricultural perspective. Heinemann suggested a role for donors in focusing on improving the consultative character of PRSPs although this would also require the involvement of African governments.
- Heinemann also raised a number of questions on the topic of *markets*. Firstly he argued that the effects of globalization on markets need to be considered. Heinemann argued that in this context the question of subsidies and the structural decline of prices of products not subject to subsidies are important. Secondly he pointed to the prevailing attitude in many countries towards producers seen as “good” whereas the intermediaries (the market) is viewed as “bad” – this attitude is problematic and needs to be rectified, suggested Heinemann. Lastly, he voiced a concern with the dichotomy between small farmers and the commercial sector presented in the paper, and argued that small farmers are indeed part of the commercial sector.

6.2 Round-table discussion

- Numerous participants commented on *the emergence of a rural civil society* in the form of ROPPA as a positive development and contrasted this with less optimistic scenarios in East and Southern Africa. Friis-Hansen for instance pointed to the question of farmer-empowerment as an important explanation for the relative success of farmers organizations in West Africa: a number of case studies from Asia and Africa have shown that farmers organizations have only had an influence in West Africa. In general suggested Friis-Hansen, Asian farmers experience a higher degree of empowerment than African farmers.
- Bara Guèye identified a number of root causes explaining the existence of more influential farmers organizations in West Africa, as compared to the situation elsewhere in Africa. Firstly, the drought in the 1970s was a major trigger in terms of mobilising farmers as the government was powerless in addressing the situation in rural areas. Secondly, an indirect effect of the drought was the return of civil-servants to the rural areas caused by the severity of the drought, the result of which is that many rural farm leaders are fairly well-educated. Structural adjustment policies led to a void which has been filled by farmers organizations. ROPPA has amalgamated the traditional farmers organizations, *paysan* and *producteur* (consisting mainly of cocoa farmers from the Cote d’Ivoire) respectively, where the latter have been very commercially oriented.
- A number of participants also raised the question of how *small-scale, small farming and small farmers have been defined* in the paper, and the issue of a dichot-

omy between family farming and commercial farming. Bara Guèye agreed that the latter is a false dichotomy. In addition he qualified the way in which family farming (rather than small scale) farming was used in his presentation and argued that the concept of family farming refers to a system where the family is very important. In this sense the size of land is not the issue, but rather the way it is farmed, for instance labour management within the farm unit and the relationship between the family and its resources.

- A couple of participants wished for the *characteristics of farmers organizations* to be discussed further. Rahmato for instance suggested that power relations are very significant in relation to farmer organizations, as they constitute an alternative arena of power (in relation to the traditional power of the state for instance). Havnevik in a similar vein called for a discussion that focuses on measures to raise political power from below and suggested that a general political shift towards smallholders is occurring for instance through the World Social Forum. Gabre-Madhin requested a more nuanced picture of farmers' organizations, and argued that in low-risk areas these tend to be market-oriented, whereas in high-risk areas they tend to be community-oriented and for this reason may serve different purposes according to local context.
- *The role of governments and donors in strengthening farmers organizations* was also discussed at some length. The central question in this context from the donor vantage point was how to ensure that donor support of farmers organizations did not usurp the organization. In a similar vein the question of possible entry points for supporting local government was raised. The redistributive aspects of donor support to organizations were also mentioned by Carus. Bara Guèye responded that the issue of support both to farmers organization as well as to local government is a very critical question. Sida's support to decentralisation in West Africa was taken as a positive example of donor support which has promoted links between local government and agriculture.
- The issue of *globalization* was commented on by Mkandawire for instance, who argued that this needs to be addressed, especially in West Africa where tree-nut crops are important. One of the main questions to pose in this context is how agri-business interest groups from the North can benefit small farmers? Are Nordic countries, for instance, supporting agri-business groups in West Africa?

OECD Policies, Poverty and Agricultural Development in Sub-Saharan Africa
Alexander Werth

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1. Background

Africa south of the Sahara is the only major region in the world where poverty is increasing rather than reducing and where human development indicators are worsening. The region thus poses a major challenge to the achievement of the Millennium Development Goals (MDGs), especially the target of halving absolute poverty and hunger by 2015. A major cause of this negative development is the ongoing crisis in African agriculture, particularly with respect to the production of staple foods, both for the rural population itself and for urban dwellers.

This paper reviews key agriculture-related policies – at national and international level – of major Organisation for Economic Cooperation and Development (OECD) members, in an attempt to assess in how far such policies impact on, and limit, the policy options for food and agricultural policy of Sub-Saharan African (SSA) governments. The paper will aim at appropriately grouping OECD policies, and then quantitatively measuring and discussing the importance of the different policies in terms of their actual and potential impact on SSA agriculture. In cases where it is possible, the paper points to correlations between OECD agriculture policies and issues such as staple food crop yields and implications of OECD policies for small-scale farmers. The study will also look at the root causes of the dwindling share of donor resources earmarked for agriculture and identify some measures to reverse this trend. Lastly, the paper briefly looks at other "external factors" that may impact on SSA agriculture, and, if so, through which channels such impact takes place.

2. Introduction

Poverty and hunger are deepening in Sub-Saharan Africa. The number of poor people is expected to have risen by around 90 million to 404 million people between 1999 and 2015 (Commission for Africa, 2005). Some 27 percent of the African people are undernourished – almost double the figure for the rest of the developing world. Hunger causes close to 3 million deaths in Africa annually (Benson, 2004) - more than all the continent's infectious diseases – HIV and AIDS, malaria, and tuberculosis – put together. More than half of all global child deaths are related to malnutrition; hunger also reduces school attendance and impairs learning capacity (FAO, 2005). Average life expectancy in Africa is at merely 46 years, i.e. only two thirds of the average life expectancy in East Asia. Only 58 per-

* Consultant, Kampala, Uganda

cent of Africans have access to clean water - compared to 84 percent in South Asia. The only positive exception is education where the picture is more encouraging, with strong increases in literacy across all developing countries – including African - over the last decades (Commission for Africa, 2005).⁷

Agriculture accounts for 30-40 percent of GDP in most African countries; it makes up the bulk of national incomes; accounts for almost 60 percent of Africa's export earnings (IFPRI, 2004), and provides livelihoods to around 80-90 percent of the African population (UNECA, 2004). African agriculture has strong linkages to several of the 2000 Millennium Development Goals (MDGs), such as those related to poverty in general, hunger, health, child mortality, as well as environmental sustainability.

It is a widely held view that agriculture remains the key sector for virtually every country in Africa, and that promoting growth in agriculture will have positive economy-wide spill-over effects (Commission for Africa, 2005). Also, growth in Africa's agricultural sector promises to have much greater positive effects on hunger reduction than do industrial and urban growth (FAO, 2005). Consequently, already a modest increase in agricultural growth could have significant impacts on SSA economies and income levels. Farming itself has the potential to provide for long-term economic growth, if it adapts to the challenges of modernising societies and industrialising economies in Africa.

Currently, SSA agriculture has two main foci: either growing crops for subsistence, or producing cash crops for export to the industrialised world. If a third was added, i.e. growing staple foodstuffs e.g. for export to African countries facing chronic food shortages, then agricultural production could be turned into growth in potential 'breadbasket' countries. At the same time this could bring relief to those undernourished 27 percent of the African populace - that is an estimated 200 million people (Benson, 2004) – and to the close to half of all African countries facing regular food shortages. It is estimated that focusing more on production of staple food crops – such as rice, maize, cassava and legumes - for intra-African consumption would also reduce the need for food imports from outside Africa by some USD 22 billion worth of food, including food aid valued at more than USD 1.5 billion (Commission for Africa, 2005). The value of staple food consumption currently exceeds that of export commodity markets by around 300 percent (Chigunta et al., 2004). As the population increases globally, staple foods markets will be the fastest growing of all African agricultural markets over the next 20 years (Commission for Africa, 2005). Projections show that Africa will increase its food staples consumption by 100 percent until 2020, worth some USD 50 billion (IFPRI, 2004) and equalling about 4 percent growth per annum. If African agricultural producers could capture a larger chunk of this growing market, they could increase their food staples production by 3-4 percent annually (Hazell, 2005).

It is further suggested that broad-based agricultural growth dominated by food staples has a much bigger impact on poverty than growth in high value exports. Also, for the same rate of agricultural growth, one obtains a much larger impact

⁷ Consultant, Kampala, Uganda

on poverty by 2015 if that growth is driven by food staples rather than high value export crops. And, most importantly, staple foods production is much more pro-poor because staples are grown by small-scale farmers all across Africa: 70-90 percent of farms in many poor African countries are small; they account for more than 90 percent of African agricultural production and thus significant shares of food staples supply; and they are dominated by the poor (IFPRI, 2004). Increases in staple crop yields could therefore have a huge impact on poverty, as it would result in greater on-farm productivity for many poor farmers, but also reduce food prices for everyone else (Hazell, 2005). And, most importantly, many African farmers seem well positioned to compete in the expanding African staple food markets.

Consequently, it can be said that staple food production-centred agricultural growth strategies could be commendable avenues for achieving pro-poor growth and development in SSA and, ultimately, could accelerate Africa's progress in moving towards the achievement of the Millennium Development Goals.

Within the framework of MDG 8 (Global Partnership for Development), OECD countries are called upon to make their development contribution by achieving coherence of their policies with the developmental needs and interests of poor African developing countries, including the abolishment of unfair trade rules and policies, recognising the special needs of especially poor and marginalised countries, as well as the provision of more and better development assistance.

Many key OECD members such as the EU, US or Japan have been consistently accused of frustrating African development efforts e.g. by protecting their agricultural markets through various tariff- and non-tariff measures (such as product standards and rules of origin); and by heavily supporting their agricultural producers and exporters through various subsidies – in the tune of around USD 350 billion in 2005 alone – thereby out-competing African producers and exporters at home and in third country markets.⁸ African countries are also increasingly under pressure to reciprocate the trade concessions made by developed countries – be it at the international or bilateral level (Commission for Africa, 2005); while OECD countries fail to provide Africa with sufficient levels of 'Aid for Trade' to help it adjust to the challenges posed by gradual integration into the global trading system (UN Millennium Project, 2005).

Adding insult to injury, both the volume and share of aid earmarked for agriculture has been steadily falling to below 1980s levels – and this although Official Development Aid (ODA) has been recognised as a crucial instrument for supporting agriculture and rural development, and for enhancing food security. This trend of shrinking agricultural ODA was especially strong in SSA where bilateral agricultural aid fell by 60 percent from USD 1.3 billion to only USD 524 million in only ten years (between 1990 and 2001) (FAO, 2005).

The following sections will group the various agriculture-related OECD policies and attempts to assess in how far they compromise African governments' policy options for agriculture and food policy.

⁸ Summarised e.g. in Commission for Africa 2005; FAO 2005; UN Millennium Project 2005; and UN Millennium Project Task Force on Hunger 2005.

Clearly, there is a plenitude of policies attributable to key OECD countries such as the US, EU and Japan which are – at least indirectly – impacting on the actual policy space SSA governments have in regard of devising and implementing agricultural and food policies. For the sake of ensuring a certain degree of focus in this paper, the following analysis rather focuses on trade and aid-related OECD policies – while looking at the obvious, direct and established interlinkages between them and SSA policy options for food and agriculture. The following categories of OECD policies have been identified for the purpose of this study:

- OECD trade-related measures affecting SSA countries' agricultural suppliers at home and on third country markets (Section 3);
- Policies attributable to OECD countries undermining SSA efforts to enter OECD agricultural markets (Section 4);
- OECD efforts to influence SSA trade and macro-economic policies at the domestic level (Section 5); and
- OECD efforts with regard to supporting SSA agricultural growth and economic development through ODA, and lack thereof (Section 6).

3. First, Do No Harm...

"First do no harm, is one popular summary of the Hippocratic oath taken by doctors through the ages. The maxim should also be applied to the responsibility that the rich world has towards Africa" (Commission for Africa, 2005).

3.1 Domestic support

Yet, certain OECD countries – most importantly the EU, US and Japan - are severely harming farmers and agricultural exporters in Sub-Saharan Africa by providing their agricultural sector with farm subsidies totalling some USD 350 billion⁹ - in the year 2005 only (Commission for Africa, 2005). This amount can be broken down to around USD 250 billion given to producers and a bit more than USD 50 billion spent on issues such as research and development, infrastructure, extension and marketing. A large chunk – i.e. USD 160 billion – of the producer support is provided through price support (that is keeping consumer prices artificially high through market barriers), and almost USD 100 billion is paid to OECD farmers directly. The Quad members US, EU and Japan are responsible for 90 percent of total OECD support, with the bulk of these subsidies promoting production of milk, meat, grains and sugar (World Bank, 2005). Turning less than 15 percent of this support into aid would increase global ODA spending by 100 percent (Commission for Africa, 2005).

⁹This number used by the Commission for Africa seems to be based on the Total Support Estimate (TSE) used by the OECD, which basically includes all transfers of taxpayers and consumers to the whole agricultural sector, that is market price support, direct payments to farmers as well as to general services provided to agriculture. In WTO nomenclature, that would include Amber, Blue and Green Box subsidies as well as export subsidies.

Almost a third of gross farm receipts in OECD countries – around 20 percent in the US, some 35 percent in the EU and almost 60 percent in Japan - come from a combination of government interventions in markets and budgetary payments (OECD, 2005b). Yet, the 25 percent smallest farms in the EU and US benefits from meagre 4 percent of domestic support outlays, while the largest 25 percent of farms receive more than 70 percent of EU and US domestic subsidies (Commission for Africa 2005).

Strikingly – and as table 15 below illustrates - overall OECD support levels have remained relatively stable within the last 20 years, and this despite these countries' commitment which they made in Marrakech in 1994 "to provide *for substantial progressive reductions in agricultural support*"¹⁰ [emphasis added]. Yet key subsidising WTO members point to major achievements in this regard, arguing that much headway has been made by increasingly moving from trade-distortive subsidies to less or only minimally trade distorting support. Here it is important to understand the WTO nomenclature and approach on subsidies – which is very different from what the OECD uses.¹¹ The WTO Agreement on Agriculture differentiates between three different kinds of subsidy categories which are open to OECD countries: trade distorting subsidies linked to production (e.g. price support, premia and input subsidies) – so-called 'Amber Box' policies; less trade distorting subsidies in the form of direct payments with production limitation requirements – so-called 'Blue Box' policies; as well as support deemed to have no or only minimally trade-distortive effects (e.g. general services to the agricultural sector and direct payments that are de-coupled from production) – so-called 'Green Box' subsidies.

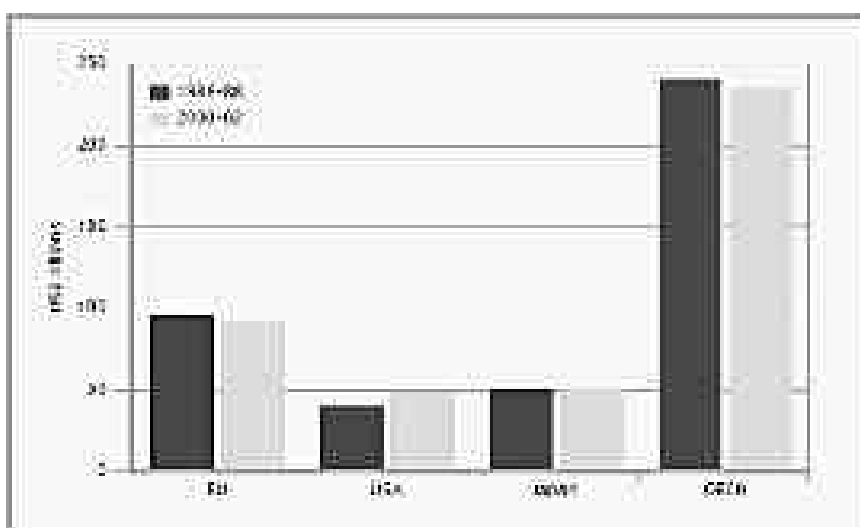
Indeed, since the launch of the WTO in 1995, the EU, for example, has turned much of its Amber Box spending into Blue Box and Green Box support. In 2002/03, the EU provided Amber Box support totalling EUR 39.3 billion, EUR 23.7 billion in Blue Box payments, and EUR 20.7 billion in Green Box subsidies. This gradually moving towards less trade distortiveness is continuing in the ongoing process of reforming the EU's Common Agricultural Policy (CAP) where the EU committed to further 'de-couple' payments from production factors. This will further move significant amounts of current Amber and Blue Box spending into the Green Box (Swinbank, 2005). However, overall spending levels will not be reduced. While there is general recognition that Green Box payments are much less trade distortive than other forms of agricultural support, they may still affect a farmer's production decision, inter alia since: it is possible to cover fixed and variable costs through 'cross-subsidisation'; direct payments have a risk reducing effect; and they create expectations with respect to future assistance based on past government actions (Ingco and Nash, 2004). Ergo, a significant degree of market distortiveness would still remain if all OECD agriculture subsidies would be decoupled and turned into Green Box measures – while the level of overall

¹⁰ Preamble to the WTO Agreement on Agriculture.

¹¹ The OECD largely focuses on how much taxpayers and consumer spend on certain crops or the agriculture sector as a whole.

OECD spending on agriculture remained the same. The UN Millennium Project thus recommended recently that all domestic support be decoupled by 2010 and then capped at 10 percent of agricultural production (on a by product-basis), and subsequently reduced to 5 percent by 2015 (UN Millennium Project, 2005).

Table 15: Agricultural Support in OECD Countries



Source: Commission for Africa 2005/OECD.

Studies have shown that exports from SSA countries are particularly affected by other OECD countries' subsidies (Hoekman et al., 2002). African farmers hold a natural competitiveness with respect to a wide range of agricultural products, but often find themselves displaced as they are simply unable to compete with subsidised and artificially cheap produce on the domestic and the international market (Gueye et al., 2003). This leads to stagnation in the agricultural sector, thereby displacing agricultural producers in SSA and, ultimately, intensifying the conditions of poverty in the South. Loss in annual agricultural and agro-industrial income in SSA is estimated USD 2 billion, a displacement of production equalling about 3.4 percent of total income in these sectors. However, smaller SSA countries are most affected with income losses of 10 to 15 percent of total agricultural and agro-industrial incomes. The EU is responsible for more than half of the trade displacement, the US for around a third, and Japan and Korea for another ten percent (Diao et al., 2003).

Table 16: Producer Support Estimate¹² in US, EU and Japan by Key Staples, 2002-04 Average, As % of Gross Farm Receipts

	Rice	Wheat	Maize	Other Grains
US	33	30	21	34
EU	36	43	39	51
Japan	83	83	81	n.a.
Korea	77	n.a. ¹³	n.a.	78

Source: OECD 2005c

All-OECD producer support (PSE) in 2004 for wheat amounted to USD 18.5 billion, for maize USD 15 billion, for rice USD 26.5 billion, and for other grains USD 10.9 billion¹⁴. The Total Support Estimate¹⁵ (TSE) for the EU in 2004 stood at USD 150.6 billion, the US's at USD 108.7 billion, Japan's TSE at USD 60.9, and the TSE of Korea at USD 22.5 billion (OECD, 2005c).

3.2 Export subsidies and export credits

Export subsidies are among the worst of all trade policy instruments as the adverse effects of these measures are entirely passed on to third country markets. They are used for enabling the disposal of surplus production on the world market by compensating exporters when the production costs were higher than the current world market price. Since they are more often applied when world prices are down, they can promote international price volatility. And although they may benefit some developing countries by lowering import prices (see below), they tend to destabilise local markets (OECD, 2002), with potentially severe consequences especially for small-scale farmers.

Clearly, the EU is the biggest culprit here, subsidising exports in the tune of close to USD 3 billion. The EU alone accounts for 90 percent of global export subsidies in agriculture (OECD, 2002). For example, the EU in 2002/03 provided export

¹² The Producer Support Estimate (PSE) measures the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income. It includes market price support and budgetary payments, i.e. gross transfers from taxpayers to agricultural producers arising from policy measures based on: current output, area planted/animal numbers, historical entitlements, input use, input constraints, and overall farming income (OECD, 2005c).

¹³ Means 'not available'.

¹⁴ E.g., the US provides support to sorghum at a PSE of 37 percent, and barley at 30 percent (Thompson 2005).

¹⁵ The Total Support Estimate (TSE) is an indicator of the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agriculture, net of the associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products (Soledad Bos 2003).

subsidies to wheat in the tune of EUR 141 million, EUR 25 million to rice and EUR 18 million to fruits and vegetables.¹⁶ In general, the elimination of EU export subsidies would bring about increases in prices, exports and production in the main net-exporting countries. This would also have some positive effects on Sub-Saharan African supply of global agriculture markets, for example projected increases of 2-3 percent in the SSA supply of wheat (ILEAP, 2005a).

For its part, the US is the largest user of export credits (OECD, 2002) which can provide the equivalent of subsidies, partly through reducing the cost of credit, and partly through reducing risk for traders through the provision of government guarantees and credit insurance. These US programmes are estimated at around USD 5.5 billion under the current 2002 Farm Bill (Commission for Africa 2005). Notably, WTO members agreed at the recent WTO Ministerial Conference held in Hong Kong on 13-18 December that all export subsidies and export measures with equivalent effect (including the subsidy elements of export credits) be eliminated by 2013 (WTO, 2005).

The table below illustrates the large impact a total removal all OECD domestic and export subsidies would have on international commodity prices.

Table 17: Increases in World Prices Resulting From Removal of Market Distortions

Commodity	Full policy Elimination	Global tariff removal	OECD domestic Subsidy removal	Global export subsidy removal
	<i>Percentage changes from base</i>			
Wheat	19.1	3.4	12.0	2.0
Rice	10.1	5.9	2.4	1.5
Other grains	15.2	1.4	12.2	0.8
Vegetables and Fruits	8.2	1.9	0.1	3.0
Oil and oilseeds	11.2	3.1	7.8	0.1
Sugar	16.1	10.9	1.6	1.3
Other crops	5.6	4.2	1.2	0.1

Source: Soledad Bos (2003)

3.3 Impact on food-importing SSA countries

As much as agricultural subsidies harm SSA farmers and exporters, they can benefit those developing countries whose food security policy is dependant on significant volumes of staples food imports. For example, and as seen above in table 17, a total subsidy removal on wheat would lead to a 12.2 percent increase in world price, while a total elimination of domestic and export subsidies of maize in OECD countries would increase its world price by 12.8 percent (Soledad Bos, 2003).

¹⁶ See WTO document G/AG/N/EEC/52 16 February 2005 submitted to the WTO Committee on Agriculture.

SSA countries imported between 2001 and 2003 staple food crops such as wheat, maize and rice amounting to around USD 2.5 billion. An ambitious outcome of the current Doha 'Development' Round with respect to the removal of agricultural support could thus pose significant adjustment challenges on some African food-importing countries. In the case of maize, for example, it has been established that the overall welfare effect of the elimination of OECD maize subsidies would be negative in countries such as Kenya, Uganda, Zimbabwe, Botswana and Mozambique. In terms of food security, declining consumption could be expected in countries like Kenya and Botswana, with food insecurity likely to increase in these regions (Soledad Bos, 2003).

3.4 Conclusion

The removal of subsidies is expected to result – at least in the short-term¹⁷ - in higher world prices for certain staple food crops. Small-scale farmers focusing (also) on non-subsistence staple foods production would certainly benefit from such development, as profits were higher at the local, regional and international market. On the other hand, higher prices can also reduce consumption in SSA, potentially undermining food security. The net impact on food security depends on which effect is greater. Henceforth, to ensure that national food needs are fully met as staple food prices rise, some SSA countries may require adjustment support, e.g. for improving the supply-side capacity, including in food production, storage and markets (Commission for Africa, 2005) and for providing transitory food subsidies to assist consumers during the transition to more affordable crops (Soledad Bos, 2003). If these flanking measures were in place, a very high level of ambition in OECD subsidy removal would be beneficial to small-scale farming in SSA. However, positive impacts seem largest if also OECD border measures would be removed in parallel (see following Section 4).

4. Let Them Trade!

Apart from directly harming African producers and traders on domestic, regional and international markets, agricultural policies of some OECD members are also very protectionist, i.e. they intend to shield certain 'sensitive' - and often also less competitive - segments of their agricultural markets against imports from more competitive producer countries. Analysis suggests that improved market access will have a greater impact on trade flows than any other element in the current negotiations (OECD, 2005b). For example, it is estimated that an elimination of OECD subsidies only would result in a 5 percent increase in SSA incomes, whereas a removal of all OECD market distortions – including border protection - would increase the incomes in SSA by full 57 percent (Beghin et al., 2002). If

¹⁷ A rise in production due to higher food prices would result in higher levels of supply and thus declining market prices. Major agricultural exports should thus cooperate more to better control supply side for the sake of price stability (EPRC-ICTSD-CSA, 2005).

only the EU and the US would fully open their markets while also eliminating all agricultural subsidies, projections suggest that African exports would rise by 20 percent. (IFPRI, 2004), and GDP increase by 5.7 percent (Johnson et al., 2003). Due to the strong regional ties between the EU and SSA, full market liberalisation in the EU would account to almost 70 percent of the increase of SSA export values (Diao et al., 2003).

4.1 Tariff protection

One of the protectionist barriers faced by developing countries in certain OECD markets are **tariffs** – i.e. special taxes applied at the border on imported goods. Notably, OECD tariffs on agricultural imports are much higher than on other goods: the EU's average applied agricultural tariff is at 22 percent, and the US applies a mean tariff of 14 percent on agricultural imports. This is around three to four times more than the average tariff they pose on industrial goods.

Another phenomenon is the application of so-called *tariff peaks* – meaning exceptionally high tariffs, normally beyond 15 percent. Around 40 percent of all tariffs in the EU and Japan constitute tariff peaks, with certain tariffs reaching enormous levels such as 300 percent on meat in the EU (Commission on Africa, 2005) and 491 percent on rice in Japan (Diao et al., 2003). Tariff peaks are common in the beef (Canada and EU), dairy (EU, Japan, US), vegetables (EU, Japan, US), fresh fruits (EU, Japan, US), cereals (EU and Japan), sugar (Canada, EU, Japan, US), prepared fruits and vegetables (Canada, EU, Japan, US), wine (Canada, EU, Japan, US), spirits (EU, Japan, US) and tobacco sectors (Japan, US) (Stevens, 2003).

Tariff escalation is another market access barrier. Tariff escalation refers to the practice of applying increasing import tariffs according to the degree of processing of the product. This method is seen as particularly anti-development, as tariff escalation is effectively frustrating developing countries' efforts to climb up the value addition ladder. A common example is coffee, facing an EU tariff (generally applying to all trading partners) for non-roasted coffee of 0 percent, in roasted form of 8 percent, and for coffee preparations of more than 30 percent. Also Japan provides zero-duty market access to non-roasted coffee, but a tariff on coffee preparations of up to 112 percent.

However, tariff barriers are not a predominant issue for most African countries when exporting to key OECD market such as the EU, US, Canada and Japan. This is because they benefit from different **preferential trade arrangements** e.g. under the EU-ACP Cotonou Agreement (extending the Lomé preferences given to ACP countries), the EU Generalised System of Preferences (GSP) available to developing countries, and the EU Everything But Arms (EBA) initiative available to all least developed countries (LDCs). SSA countries also benefit from other initiatives such as the US African Growth and Opportunity Act (AGOA), and the Canadian and Japanese LDC schemes.

As a result, tariffs, tariff escalation and tariff peaks are only a problem where these schemes exempt certain 'sensitive products' from their application. For

example, the AGOA exempts products such as Soya bean oil, sugar, cocoa and tobacco; while the EU is excluding products such as meat, Soya bean oil, groundnuts, sugar, cocoa, oranges and pineapples imported by non-LDC African countries. Japanese tariffs seem to escalate on African coffee and cocoa products (Commission for Africa, 2005).

Many OECD countries also use so-called **tariff rate quotas** (TRQ), i.e. they apply low tariffs on certain products falling within a given quota, while posing very high – and partly prohibitive - ones on imports outside that set contingent. Most of the WTO TRQs can be found in the dairy (183), cereals (226), meats (258) and fruits and vegetables (370) sectors. The EU uses altogether 87 of such tariff quotas, the US 54, Japan 20, Korea 67, Iceland 90 and Norway full 232 TRQs (Ingco and Nash, 2004). Such TRQs generally constitute serious market access barriers to exporting countries – due to the often prohibitive character of the out-of-quota tariffs, as well as the often very intransparent administration of the quotas. However, TRQs do often not apply to exports under preferential schemes for LDCs and certain other developing countries.

Table 18: Preference Schemes Available to African Countries

<p>Africa benefits from a range of preference schemes – the GSP (Generalised System of Preferences); the EU Cotonou agreement for African Caribbean and Pacific countries (ACP); the US African Growth and Opportunity Act (AGOA), and various LDC schemes of the EU, Canada, and Japan. There are 35 LDCs¹¹ in sub-Saharan Africa, and 15 non-LDC African countries (Botswana, Cameroon, Cape Verde, Côte d'Ivoire, Republic of Congo, Gabon, Ghana, Kenya, Mauritius, Namibia, Nigeria, Seychelles, South Africa, Swaziland, and Zimbabwe). See Figure B.15.</p> <p>EU Cotonou Scheme: Cotonou is a very open scheme, with enhanced preferences beyond those in the GSP scheme, and with protocols for bananas, beef, veal and sugar. This incorporates all of SSA, excluding South Africa.</p> <p>Everything-But-Animals (EBA): The EU offers duty-free and quota-free access for all goods from LDCs under the Everything But Animals (EBA) Agreement, and is part of the EU GSP scheme, but for LDCs. This scheme was introduced in 2001 and is permanent. Full access for bananas and for rice and sugar is being phased in by 2006, and 2009 respectively.</p> <p>AGOA¹²: The US introduced this scheme in 2000, amending the US GSP scheme to reduce tariffs and offer improved access to some African countries for a limited number of products, including in textiles and clothing, up to 2008. In 2004, the scheme was extended to 2015. Low-income countries (defined by US as those with annual per capita income below US\$1,300) can receive a waiver on restrictive rules of origin. This covers 29 LDCs and 13 non-LDCs in SSA.</p> <p>Canada: In 2003 Canada expanded its GSP scheme to cover substantially all products from LDCs, including textiles and clothing, with the exception of a limited number of products (eggs, poultry and dairy), along with liberal rules of origin.</p> <p>Japan: In 2000 and 2001, Japan has progressively expanded the number of industrial and agricultural products from LDCs receiving duty-free access. This covers 31 SSA LDCs except for Djibouti and Comoros.</p>

Source: Commission for Africa (2005)

Special or **non-ad valorem tariffs** – i.e. tariffs not entirely based on the value of the imported good (e.g. EUR 100/ton) – also have very severe market access-limiting effects. This is due to the difficulty to determine the exact protection levels as they change over time and with the relative import price. Protection will increase as world prices of a specific product declines and will be higher for low-priced products from developing countries (Ingco, 2004). The negative effects are thus particularly tangible for SSA exporting countries. While developing countries are hardly using special tariffs, they constitute 15 percent of all tariff lines in Japan, 28 in Canada, 43 percent in the US and 44 percent in the EU (Ingco and Nash, 2004).¹⁸

Many OECD countries negotiated during the Uruguay Round establishing the **WTO special safeguards (SSG)** under Article 5 of the WTO Agreement on Agriculture, allowing them to automatically impose higher safeguards duties when the volume of an imported good reaches a certain threshold, or if prices fall below a certain level. The EU for example negotiated such SSG on 539 tariff lines (e.g. on maize, fresh vegetables, bananas, meats, sugar and tobacco), Norway on 581, and Switzerland on 961 (Ingco and Nash, 2004). Such safeguard clauses are usually also integral parts in preferential trading schemes.

As argued, tariff barriers are not the main concern of most SSA countries; to the contrary, SSA countries often benefit from a high - generally applicable - tariff when they export duty- and quota-free under one of the preferential schemes offered to them. This difference between the general tariff and the preferential tariff applied by the importing country is the preference margin which gives SSA countries a competitive edge vis-à-vis other exporting countries. However, as protectionist OECD countries are under immense pressure at the WTO to substantially reduce tariff barriers in agriculture, these margins will gradually decrease as WTO members such as Japan, EU and US reduce their tariffs. This effect is called **preference erosion** – a dynamic which seems inevitable and which is likely to completely erode the value of trade preferences in the long run. This negative effect on SSA exporters can only partly be mitigated in the medium term, so that SSA countries will require support to help them adjust to a situation where they will have to compete on equal terms with other major agricultural exporters (see also Section 6).

¹⁸ SWTO members are currently transforming – by using a specific methodology – all special tariffs into ad valorem tariffs, but this – for the time being – only for the purpose of later applying a horizontal tariff reduction formula in the context of the ongoing WTO agriculture negotiations. It still remains to be seen whether these transformed tariffs will be re-converted – as suggested by the main users of non-ad valorem tariffs - in special tariffs after the application of the reduction formula.

4.2 Key non-tariff barriers ¹⁹

Widely regarded as the most distorting market access barrier for African countries are – in the area of agriculture – food and safety standards imposed by OECD countries – predominantly by the EU. Most important to note here are health standards such as **sanitary and phytosanitary standards (SPS)**. As agricultural tariffs are steadily declining in most OECD countries, new and increasingly burdensome food safety standards may sometimes be the result of effective agribusiness's lobby work aimed at keeping out imports (Stevens, 2003). At least SPS measures are seen as one of the reasons why SSA countries are not able to fully exploit existing market access (e.g. under EBA) by diversifying into new market segments as well as by moving into value added production. Whether this is intentional or not, the question can be asked whether, for example, the vision of the reformed EU Common Agricultural Policy really foresees - on a long-term basis - large volumes of food imports from Africa – regardless of the EU repeatedly demonstrating its commitment to further integrate weak and vulnerable countries in the global trading system.

Technically, SPS measures are trade measures aiming at the protection of human, animal and plant life or health. Examples here are the EU traceability ('from farm to fork') regulation (EC Regulation 178/02) or the EC Feed and Food Controls Regulation (882/04). Although the WTO SPS Agreement promotes the use of internationally agreed and harmonised standards²⁰, some OECD countries - mostly the EU - are using their own, and usually a lot stricter standards (which is allowed as long as these stricter measures are scientifically justified).

If the EU would apply international standards on traceability and pesticide residues for agricultural imports, African banana export volumes could increase by USD 40 million per year; and if Africa had the capacity to participate in international standard development, it could gain an additional USD 1 billion by exporting nuts, dried fruits and other agricultural goods (Commission for Africa, 2005). It has been established that 17 ACP states – most of which are SSA – accounting for more than 80 percent of ACP exports, are affected by EU SPS measures. Research suggests that the EU's SPS measures alone are causing between EUR 140 and 700 million of annual ongoing costs to the ACP private sector exporters, representing overheads between 2 and 10 percent of the production value – leaving aside the initial compliance costs (CTA, 2003).

SPS measures such as minimum residue level requirements are a major hindrance, for smallholders in particular, and have contributed to a declining role of small-scale farming in the agro-industry. For Kenyan smallholder flower farmers for exam-

¹⁹ Other measures usually falling under the definition of non-tariff barriers include e.g. technical barriers to trade other than SPS measures (e.g. packaging and labelling requirements); quantitative restrictions (e.g. quotas); government participation in trade (including subsidies and public procurement); non-tariff charges (such as antidumping and countervailing duties) and customs procedures and administrative practices (customs valuation, pre-shipment inspection and sample requirement).

²⁰ Such standards are usually developed by the Joint FAO/WHO Codex Alimentarius Commission and the Office International des Epizooties.

ple, traceability is one of the most influential and problematic requirements: smallholders are likely to be left out as they lack the capacity to implement good practices – such as EurepGAP²¹ – which EU retailers are requiring exporters to adopt from the field to the point of embarkation. This is to guarantee – through certification of independent bodies – that importers have taken all precautionary steps to ensure food safety. If no adjustment support is provided it is feared that Kenyan smallholder producers, who account for 60 percent of total horticulture exports to the EU, will be barred from this lucrative market (Ogambi, 2005).²²

However, the most recent EU SPS measure (EC Feed and Food Controls Regulation 882/04) is expected to have the most significant impact on African-EU trade. Because this Regulation requires guarantees from national authorities of exporting countries that their food safety monitoring systems will de facto bring about food safety levels for exports being equivalent with those of the EU itself. As the meats and fish sectors are already rigorously controlled, the strongest effects of this new measure will be felt in the plant-related sectors (Commission for Africa, 2005).

It is estimated that the implementation of the newest EU food safety regulations could cost Kenya some USD 400 million of export earnings per year (Commission for Africa, 2005).

To be mentioned are also **technical barriers to trade** (TBT) which include packaging and labelling requirements. An illustrative example gives the EU regulation on organic production of agricultural products (Council Regulation (EEC) 2092/91), which includes a provision for a basic standard for organic plant production and requirements regarding farming, processing and importation from third countries. Organic products coming from third countries must therefore comply with certain requirements dealing with organic production before being allowed onto the internal market. Also, importers of organic products from third countries must be subject to a special certification system. These requirements are very burdensome and make it extremely difficult for non-EU exporters, especially from developing countries, to penetrate the very lucrative EU organic agriculture market (National Board of Trade, 2003)²³. This is noteworthy, as the EU is a key promoter of organic agricultural production and trade in Africa; so one would expect better incentives for SSA exporters to enter the EU organics market. However, the EU significantly supports its own farmers in moving into new agricultural niche and high-premium markets such as organic agriculture, which could be a possible explanation for this specific incoherence between EU development and trade policy.

²¹ European Euro Retailer Produce Working Group's Good Agricultural Practices. EurepGAP covers areas such as: traceability; seeding details; pre-harvest information; farming methods; post-harvest information; waste and pollution management; and workers' health, safety and welfare.

²² See also Section 4.

²³ The international market for organic foods (USD 17.5 billion per year) is the fastest growing segment in the foods sector worldwide.

Another often cited non-tariff barrier for SSA exporters are **rules of origin**. They are usually an issue in the context of trade preferences because their aim is to determine which products are deemed to originate in the exporting country and which can thus benefit from a specific trade preference granted to this country. In particular, if a preference-receiving country intends to export a processed good the raw materials of which it had imported from somewhere else, rules of origin normally determine the level of processing and value addition required to confer eligibility. These rules are usually very complex and restrictive, and they differ significantly depending on which preferential scheme is being used. Although rules of origin are classically an issue in manufacture trade, they can be added to the list of key obstacles preventing SSA countries to further diversify into non-traditionals and value-added products.

4.3 Other market entry barriers

International supermarket chains are increasingly determining how food is being produced in developing countries. They do this, firstly, by applying new EU food safety standards further down the supply chain to ensure their own regulatory compliance (see above on EurepGAP); secondly, by developing and implementing their own private standards based on consumer preferences – and which can undermine market access even more than public standards (Commission for Africa, 2005); and, thirdly, by increasingly penetrating low and middle-income countries. These three dynamics are having serious implications for SSA agricultural suppliers, small-scale farmers in particular, in terms of product quality, certification costs, etc. – and ultimately for participating in national, regional and international agrifood chains.

Top agrifood retailers account for around a third of grocery sales worldwide and, nationally, the top five supermarkets often account for 70 percent or more of grocery sales (Jacobsen et al., 2003). When apartheid ended in the mid-1990s, significant FDI in the SSA agrifood retail sector has been made via South African investment. South African supermarket chains now have a share of 55 percent of overall national food retail, but also Kenya now has more than 200 supermarkets – accounting for 30 percent of Kenyan food retailing (Chigunta et al., 2004), and Zimbabwe and Zambia have at least 50 supermarkets each (Reardon et al., 2003).

Supermarket chains are directly or indirectly determining production methods and standards by applying codes of good practices (such as EurepGAP) to suppliers; by cooperating with specialised wholesalers and importers which enforce standards and contracts for them; by entering into formal or informal contracts with suppliers; or by having contracts with processing firm which, for their part, have contracts with the suppliers (Reardon et al., 2003).

Clearly, and as also illustrated above by the case of Kenyan flower farmers, many small-scale producers and processors find themselves unable to meet the various and often very complex requirements and are dropped from procurement lists. Yet, supermarkets can provide income opportunities to small-scale farmers via out-

growers schemes – although the impact on rural and economic growth may not be as large as focussing on production and staple foods for the regional market (Johnson et al., 2003).

Consumer standards and preferences relating to food safety, animal welfare, social aspects and the environment are generally on the increase and will more and more influence demand – and indirectly production (see above) – in many developed and developing countries (Regmi and Gehlgar, 2001). While being less and less interested in buying the cheapest product, OECD consumers are increasingly caring about whether the product meets high health, safety and environmental standards, and whether the way it has been produced is meeting their individual environmental, social (e.g. with regard to child labour and minimum wages), ethical, cultural and maybe even developmental preferences. Reflections of these new consumer demand developments include tightening health and food safety standards in EU, traceability systems as well as a mushrooming of other consumer information schemes such as labelling. This can also be seen as the result of a better informed and more demanding society as a whole. Especially the awareness-raising work of NGOs and global media networks has led to a trend towards a greater "ideological content" in goods and services.

Supermarkets are trying to respond to upcoming consumer preferences and concerns very carefully so as to not lose market share to other, more consumer needs-responsive retailers.

4.4 Conclusion

Tariff barriers are not the main obstacles for SSA exporters to access key OECD agriculture markets because they are usually beneficiaries of trade preferences, which often provide them with low- or zero-tariff market access. What is really increasingly frustrating their efforts to penetrate OECD markets, are standards and other mandatory technical requirements, usually with particularly negative effects for small-scale farming. Especially tragic is the fact that OECD members such as the EU are actively and comprehensively supporting their own farmers to implement and meet new and modified standards and technical requirements, while SSA farmers are generally left with the full burden of meeting the cost of adjustment to such new non-tariff barriers. Additionally, SSA smallholders are challenged with supermarket chains increasingly applying and implementing private, consumer-driven standards which can be even more rigorous than governmental ones. However, implications of SPS measures and other market entry barriers seem limited in relation to possible SSA exports of staple food crops, as these barriers mostly deal with high-value processed goods or fresh foods such as fish, meats and vegetables. Also, if the key strategy for SSA farmers is to focus on regional staple foods markets, than it is much more important to liberalise intra-African trade by effectively slashing tariffs, other taxes and charges, as well as non-tariff measures.

5. Give Them Space!

OECD countries' policies also aim at influencing Africa's internal policymaking – usually by limiting SSA governments' policy space through policy conditionalities attached to the disbursement of development aid (see also Section 6). Moreover, after having had encouraged SSA countries to push through neo-liberal reforms through structural adjustment programmes (SAPs) in the 1980s and 1990s, OECD countries succeeded in having developing countries bind their market-based reforms at the WTO by heavily restricting state interventionist policy options – also in the agricultural sector. While African countries were largely able to reserve flexibility in protecting their agricultural markets through maintaining relatively high tariffs, some OECD members – most importantly the EU – are now seeking SSA commitments via bilateral free trade agreements (FTAs) to substantially open up their agricultural markets.

5.1 Buying policy reform?

After around fifty years of donor experience with African development aid, it is more than questionable whether the habit of multilateral and bilateral donors to attach policy conditionalities to aid has actually led to economic growth and poverty reduction (Eicher, 2003). A major World Bank study (Devarajan et al., 2001) found, amongst other things, that: "conditionality as an instrument to promote policy reform has been a failure"; if policy changes are undertaken then not due to aid but because of political leadership, commitment by individual policymakers and –implementers or societal consensus; and there is no relationship between the level of reform and volume of aid.

Because donors are aware that SSA political leaders are often not intellectually convinced of, and politically committed to, donor-driven reform efforts, they resort to the doubtful means of conditionality although they are persistently stressing their commitment to enter into real partnerships with aid receiving countries (Bird et al., 2003).

For example, a perception survey of Eastern and Southern African stakeholders in bilateral and multilateral trade-related technical assistance and capacity building (TRTA/CB) initiatives revealed that the overall motivation for SSA engagement in such programmes – being tools promoting trade liberalisation for growth stimulation and poverty reduction – was clearly donor-driven. While aid-granting OECD countries are trying to promote a market liberalisation-friendly agenda, TRTA/CB recipient governments seem rather interested in other issues like political cooperation and development, good relations with the donors, and securing significant levels of funding in general. Therefore, the motives of providers and recipients for involvement in TRTA/CB initiatives are often not congruent, a fact which could be seen as a possible explanation for why the process of trade integration proceeds much slower than often hoped for by donors (Werth, 2005).

This strong focus of donor initiatives on trade integration is the result of the "sex appeal" this concept has amongst the donor community; and this is, for its part, the consequence of a misinterpretation of the development-relevant potential of integration in general, and trade integration in particular – both to the detriment of sustainability and development cooperation (Stahl, 2004).

Of course it is not possible to quantify here the impact of OECD countries' systematic approach of pushing SSA countries into neo-liberal reforms, and its implications for staple food production, small farmers and SSA food security. However, it can be said that the donor-driven and 'bought' structural adjustment project has not worked, at least because it has never really been tried (Jayne et al., 2002). This is due to the so-called 'partial reform syndrome', e.g. in the agricultural sector where SSA governments have 'tamed' structural adjustment (i.e. they managed to resist the deeper reform steps required despite much pro-reform rhetoric together with conditionality-backed donor influence). Ultimately, partial reform has seriously distorted the policy process so that agriculture and food security objectives have not been met (Bird et al., 2003). This backs the conclusion that it does not make sense to push and 'bribe' SSA countries into economic reforms if these policy processes are not fully owned by political leaders, policy implementers and the constituencies. Conditionality may even be detrimental for establishing democracy in Africa, but also for implementing coherent and meaningful agriculture and food security policies.

For reform efforts to be meaningful, African countries must get the capacity to develop their own appropriate and suitable policies which are not forced by trade agreements or International Financial Institutions (Commission for Africa, 2005). It is crucial to support the establishment of domestic constituencies instead of trying to 'buy reform' through conditioned aid (Bird et al., 2003). It is therefore necessary to promote the empowerment of domestic stakeholders and policy users – including small-scale farmers - to come up with their own reform agendas and advocate for them effectively in the respective policy-making processes (Werth, 2005).

5.2 'Locking in' reform at the WTO

The 1994 WTO Agreement on Agriculture significantly limits members' policy space with regard to market interventionist policies – but for some much more than for others – as we will see. WTO members committed to not using distorting domestic support measures and export subsidies beyond the spending levels during certain base periods prior to the conclusion of the Uruguay Round. Those – mostly OECD - countries which had very high levels of subsidy spending committed to binding these levels and to reduce them over a six year implementation period (Amber Box subsidies by 20 percent, and export subsidies by 21 percent in volume and 36 percent in value). Those countries with very low or zero-spending levels - such as many SSA countries after SAP implementation – also had to bind these subsidy levels, with the effect that they would never again

be allowed to effectively make use of such policy instruments in the future. This dramatic imbalance between rich and poor countries' obligations has been dubbed by some 'special and differential treatment'²⁴ for developed countries – as a few rich countries are still allowed to use subsidies in the tune of USD hundred billions, while many very poor countries are not allowed to use certain subsidies at all.

Yet, the Agreement on Agriculture makes certain exceptions for developing countries, e.g. with regard to certain investment and input subsidies (Agreement on Agriculture Article 6.2) and export subsidies aimed at reducing the costs of marketing, including internal and external transport, handling, and processing costs. Developing countries are – just as any other WTO member – also allowed to use the Green Box without any limitations.

As developing countries did not consider these built-in flexibilities under the so-called 'special and differential treatment' for developing countries as sufficient, they had been demanding – when the re-negotiation of the Agriculture Agreement started in 2001 – the introduction of a new 'Development Box' (Murphy and Suppan, 2003) to allow developing countries to support and protect their agricultural markets in the pursuit of their development and poverty reduction agendas. Some of the Development Box thinking found its way into the Doha Round mandate on agriculture, stating that improved special and differential treatment provisions in agriculture should "enable developing countries to effectively take account of their development needs, including food security and rural development".²⁵ For example, a case could be made that governments should consider providing incentives for raising productivity at reasonable fiscal cost – e.g. price intervention for smallholders only – without damaging the food security of net consumers (Green et al., 2005). It remains to be seen how much new flexibility will ultimately be accorded to developing countries – especially LDCs – in the final Doha Round negotiation outcomes.

So far, developing countries were generally allowed to maintain relatively high agricultural tariffs in order to protect their often weak and instable agriculture markets. However, developing countries are now finding themselves under immense pressure in the Doha 'Development' Round negotiations to reciprocate the existing and future tariff-related commitments made by developed countries. However, LDCs will not be asked to enter into any tariff reduction commitments at the WTO, which affects 25 of the 37 African WTO members. But the remaining 12 non LDC SSA countries²⁶ – with average bound tariffs of 74 percent (ILEAP, 2005b) – will be significantly affected by the proposed tariff reduction methodologies. Their only hope is a very generous application of the agreed concept of

²⁴ Special & differential treatment is a principle enshrined in the WTO legislation, and applying to developing countries only, usually asking them for less ambitious commitments than required from developed countries, providing them with longer transition periods, giving them some more policy space in WTO rules and disciplines, and incorporating developed countries – usually non-binding – commitments to provide technical assistance to developing countries.

²⁵ Ministerial Declaration (WT/MIN(01)/DEC/1), 20 November 2001

²⁶ These are: Botswana, Cameroon, Republic of the Congo, Cote D'Ivoire, Gabon, Ghana, Kenya, Mauritius, Namibia, Nigeria, Swaziland and Zimbabwe.

'special products' for food security, rural development and livelihood security, on which they would have to undertake no, or much reduced, tariff reductions. In addition, they are pushing for the establishment of a new special safeguard mechanism for developing countries only, to effectively enable them to protect their farmers from sudden import surges and price falls.

5.3 Tackling tariffs in bilaterals

In terms of participation in international trade, Africa is at a crossroad. While the role of many SSA countries in the multilateral trading system has so far largely been characterised by exporting traditional cash crops to major consumer markets under bilateral and unreciprocated preferential trade arrangements, they are now challenged by the fact that the preferential market access arrangements between the African, Caribbean and Pacific (ACP) group and the EU under Lomé I-IV – now extended under the ACP-EU Cotonou Partnership Agreement (CPA) – are to be replaced by WTO-conform reciprocal Economic Partnership Agreements (EPAs) between the EU and regional negotiating blocs by 1 January 2008 (CPA Art. 37). SSA countries – divided into a Southern, a South-Eastern, a Western and a central African bloc – are currently negotiating such EPAs with the EU.

For what will ultimately amount to free trade areas (in the sense of GATT 1994 Art. XXIV) between the EU and the four SSA regional grouping, the CPA also provides that "[n]egotiations shall take account of the level of development and the socio-economic impact of trade measures on ACP countries, and their capacity to adapt and adjust their economies to the liberalisation process." Negotiations should therefore be as flexible as possible, e.g. when establishing the duration of a sufficient transitional period, the final product coverage, and the degree of asymmetry in terms of timetable for tariff dismantlement (CPA Art. 37.7). Moreover, the CPA recognises the need to build capacity, inter alia, in the public and private sectors of ACP countries, including measures to enhance competitiveness, and to strengthen infrastructure, development, and investment, so that ACP countries will ultimately benefit from the new economic partnerships with the EU.

Unfortunately, while SSA countries have been stressing the development-related aspects of the EPA negotiations, the EU is much more focussing on the reciprocal removal of tariff barriers. The EU has been arguing that for an EPA to be WTO-conform (as required by the CPA), substantially all trade between both EPA partners would need to be liberalised – amounting to the removal of tariffs on at least 90 percent of all products. Yet, the WTO provision dealing with free trade areas as envisaged by the CPA (GATT Article XXIV) seems to accord a large amount of discretion to the parties of such an agreement regarding what they consider "substantially all trade", so that it would be possible to accept much less ambitious tariff reduction commitments by SSA countries than those to be undertaken by the EU. Notably, the EU has recently signalled that it would give up its very rigid stand on reciprocity in the EPA context (Borrmann et al., 2005).

Generally speaking, there are very different views with respect to the EPA benefits that will accrue for SSA countries. The WTO, for example, sees overall

welfare gains of an EPA for Southern Africa – also if Southern African countries would fully dismantle all import barriers (Keck and Piermartini, 2005). For its part, UNECA found that the negative fiscal effects for African countries would be devastating under an EPA requiring them to fully open up, so that the EU would benefit much more from such scenario than Africa (UNECA, 2005).

Much will depend on the investments made by the EU into SSA to increase trade capacity and competitiveness in order to make an EPA work for Africa. Surely, there will be a trade-off between level of SSA ambition to open up and the level of trade-related aid provided by the EU. As much as the EU may be convinced of the meaningfulness of the EPA route for SSA, there is again the feeling that an OECD member intends once again to buy and force open market reforms in SSA.

5.4 Conclusion

The strategy of OECD countries to push and 'bribe' SSA into domestic policy reform has not worked: half-hearted economic and agricultural reforms result in policy incoherency, development stagnation and, in the worst case, in chronic agriculture and food security crisis. This at least is the experience of the structural adjustment project in Africa which has never been fully owned by SSA leaders and constituencies, and therefore has never been implemented by the latter. Yet OECD countries are further trying to force and lock-in further open-market reforms at the multilateral (WTO) and bilateral level (e.g. EPAs). OECD countries would be better advised to provide SSA countries with the policy space they need to devise and implement their domestically owed development and trade agendas. But SSA will require much external support to be able to translate their poverty reduction strategies into forceful and accelerated action (see Section 6).

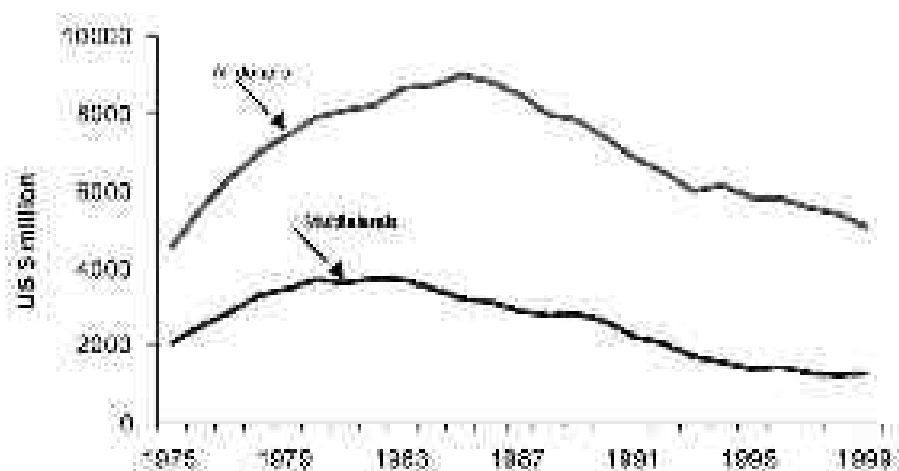
6. ...And Help Them Farm, Trade and Adjust

Even if rich nations would abolish all trade-distortive measures and give SSA all the required space to devise and implement their own development, agriculture and food policies, it is more than questionable whether Africa would be able to tap into the existing and emerging opportunities single-handedly. It is a commonly shared view that Africa, being a disease-stricken and poverty ridden continent, needs massive external support to help provide solutions to all the many challenges associated with improving agricultural production, assuring food security, strengthening trade potential, and adjusting to the far-reaching changes induced by the increasing level of trade and development integration of Sub-Saharan Africa. Recently, the Commission for Africa (2005) established that external aid would have to be increased by USD 25 billion annually, topped up by the same amount after a period of three to five years, so that the key problems and bottlenecks in SSA could be effectively tackled.

6.1 Aid to agriculture

Africa's potential in agriculture is hampered by a wide range of stumbling blocks and bottle necks – such as climatic and ecological challenges, exacerbated by the decline of investment in rural infrastructure in the end-1980s and the 1990s. Key supply-side constraints include insufficient rural transport infrastructure, lack of extension and marketing services, and an abundance of pests, weeds and diseases harming crops and livestock, as well as land tenure issues (Commission for Africa, 2005). Also, improving SSA agriculture would require improved storage facilities, agricultural education, credit provision and collection, and agricultural research and development (Chigunta et al., 2004).

Table 19: Aid to Agriculture in Developing Countries (1975-1999)



Source: Eicher 2003

Yet – as table 19 above shows - ODA provided to agriculture decreased very drastically, from USD 9.3 billion to less than USD 4 billion during 1988 to 1999 (FAO-IFAD-WFP, 2002). This general **trend of shrinking agricultural ODA** was especially strong in SSA where bilateral agricultural aid fell by 60 percent from USD 1.3 billion to only USD 524 million in only ten years (between 1990 and 2001) (FAO, 2005).

This striking contradiction between the widely recognised key role of agriculture and rural development, on the one hand, and the declining trend in resource flows to agriculture, on the other, is very difficult to reconcile. Yet, some of the possible explanations could include: the global availability of large quantities of food at declining prices; the view that technological advancement is more important than investments in the sector; the unclear links between agriculture and rural development and other key policy issues – such as the environment; and the perception of donors that agriculture and rural development projects are more risky and less profitable than other types of projects (FAO-IFAD-WFP, 2002).

Moreover, the widely experienced phenomenon that aid flow to agricultural programmes has gone down while donor support to health, education, water and

environment has increased, could be related to the high level of importance the social sectors receive in SSA PRSPs and the MDGs. It has also been argued that civil society groups have promoted this shift by convincing donors that aid must be people-centered, instead of sector or activity-centered – thereby moving donor focus to the social sectors (Eicher, 2003). But the declining farm aid symptom may also be related to the specific challenges of the agricultural sector itself. For example, as the private sector is the engine of rural growth, changes in policies and regulations are more important for agricultural producers than direct investment by the line ministry. Also, the state and the line ministry have only a limited role in agricultural growth and food security - as much of what is required falls outside their mandate. It could thus be assumed that a classical sector programme with a public expenditure focus and targeting a single line ministry is not very effective in agriculture. Consequently, donors wanting to support a sector programme may have turned away from agriculture to other sectors such as health and education where the challenges were not as discouraging (SNRD, 2006).

More recent state-of-the-art thinking on **how to revitalise agriculture through donor support** places much emphasis on so-called programme-based approaches (PBAs)²⁷ as the flexibility characterising PBAs appears to lend itself well with agriculture and rural development. For example, different PBAs can complement each other; they can address multi-sectoral concerns; are co-implemented by local actors and organisations; while using local structures and procedures; and supporting both state and non-state actors (Dietvorst, 2005).

Most importantly, PBAs are sector-wide programmes embedded in nationally owned development strategies – such as PRSPs. Donor support to the agricultural sector will thus only flow if there is visible and formal recommitment by the political leadership to effective overall management of the agricultural sector. This may ultimately reverse the trend of African government's routinely neglecting agriculture.

For bringing agriculture back on the agenda, the World Bank may be the right lead-agency just as it was in the 1960s and 70s (Eicher, 2003). Other key agencies such as the EU, bilateral donors and foundation might follow suit once the Bank has taken on a new leadership in reinvesting in agriculture.

6.2 Supply-side support

As argued earlier, SSA countries' agriculture would benefit from ambitious outcomes of the Doha 'Development' Round which would effectively open up OECD markets and dismantle farm subsidies. Yet, many SSA countries may not gain much even from such scenario, and this is due to the discouraging environments they provide for investment or business (Global Trade and Financial Archi-

²⁷ PBAs are an extension of sector-wide approaches (SWAPs). A SWAP requires that all significant funding for the sector supports a single sector policy and expenditure programme; under government leadership; adopting common approaches across the sector; and progressing towards relying on government procedures to disburse and account for all funds. PBAs are especially customised towards PRSPs, e.g. by encouraging donor coordination and harmonisation of procedures, and allowing for support of state and non-state actors.

ecture Project, 2005). As recognised by OECD countries at the Monterrey Financing for Development Conference, it is key to gradually remove supply-side constraints in developing countries; to improve trade infrastructure; diversify export capacity and support an increase in the technological content of exports; strengthen institutional development and enhance overall productivity and competitiveness. SSA-specific **supply-side constraints** include e.g. dependency on a few export commodities, low levels of diversification, lack of manufacturing capacity, and landlockedness. Other major supply side investments and reform are required in the areas of governance and the investment climate, including peace and security; social infrastructure and human skills and know-how development (Commission for Africa, 2005).

Countries with supply-side constraints need supply-side attention (UN Millennium Project, 2005), so donor support must also focus on regional integration, as well as investing in transport and communication infrastructure. Trade facilitation – including customs reform, removal of regulatory barriers, improved governance, air and sea transport reform, and regional integration - seems particularly crucial against the background of newer agricultural growth-related strategies emphasising the importance of regional and intra-SSA trade in staple foods.

6.3 Aid for trade

Lastly, SSA countries require support to be able to meet the economic and social costs of **adjusting to a new global trading environment**. This aspect has recently been dubbed by some 'aid for trade' (see e.g. Commission for Africa, 2005; UN Millennium Project 2005, and Global Trade and Financial Architecture Project, 2005). Such adjustment costs generally associated with trade integration usually include balance of payment problems; short-term export losses; loss of tariff revenue; eroding preferences; impacts of higher food prices – especially for LDCs and net food-importing developing countries; investment costs for promoting diversification; implementing public and private OECD standards; and dealing with the social dimension of trade integration, including lower incomes and unemployment in the societal groups sensitive to macro-economic changes (Commission for Africa, 2005).

To help SSA countries adjust to the changes associated with increasing trade integration, donors could e.g.: provide support for establishing safety nets for the vulnerable poor and food insecure (UN Millennium Project Task Force on Hunger); increase ODA to compensate higher food prices faced by SSA LDCs and net-food importers; or for preference revenue loss (UN Millennium Project, 2005); help SSA countries to reform their tax systems so as to off-set losses in tariff revenues (Global Trade and Financial Architecture Project, 2005); and provide technical and financial assistance as well as capacity building to help SSA countries to implement current and upcoming OECD standards.

SSA countries further need more and better aid in the form of technical assistance and capacity building to be in a position to negotiate and assess new trade agreements – and this in a well-informed and self-determined fashion. In the area

of agriculture, for example, SSA countries require support to determine their import-sensitive agricultural products with respect to food security, rural development and livelihood security; to assess the particular effects of proposed tariff reduction formulas on their own and trading partners' product-specific tariffs; the impact of tariff liberalisation on preference margins and tariff revenues; or to identify all relevant non-tariff market entry barriers faced by their agricultural suppliers.

6.4 Conclusion

The trend of declining aid flows to SSA agriculture must be reversed. This could be achieved if multilateral and bilateral donors would engage more in Programme-Based Approaches (PBA) on agriculture and rural development as the PBA format seem to respond best to the multi-sector, multi-agency and multi-dimensional characteristics of agricultural growth policy. Yet, spurring agricultural growth in SSA does not only require much more aid to agriculture and rural development in the narrow sense: SSA needs a concerted supply-side response tackling all major bottlenecks – ranging from governance issues to macro-economic stability; infrastructure improvement; as well as human, private sector and institutional capacity building. SSA countries further require help to adjust to the changes associated with increasing trade integration, including compensating preference and tariff revenue loss, temporary higher food prices, increasingly burdensome OECD food safety standards, and to the marginalisation of vulnerable groups. Lastly, SSA countries need technical assistance and capacity building to develop informed positions in the ongoing multilateral and bilateral trade negotiations.

7. Summing Up and Way Forward

The removal of **trade distorting subsidies** is key for promoting SSA staple food production and support small-scale farmers as it is expected to result in higher world prices for a range of staple food crops. This could encourage staple food production and intra-regional trade between staple food surplus and deficit countries. Yet, dismantling farm subsidies could undermine food security policies as higher prices may reduce consumption in SSA. Mitigating policies are thus key for making subsidy removal work for all SSA countries.

Possible measures:

- Elimination of all export subsidies (including the subsidy component of export credits) by 2013 the very latest, with front-loading of subsidy removal on staple foods of SSA interest;
- Decouple all farm support and reduce to 5 percent of agricultural production (on a by product-basis) by 2015;
- Provide adjustment support to SSA LDCs and net-food importers affected by higher food import prices.

As most SSA countries are only facing low levels of tariff barriers in OECD markets, focus should be under **market access** on maintaining and optimising existing tariff market access, while at the same time limiting the market entry barriers resulting from new food standards and private, consumer-driven preferences and concerns. Also SSA suppliers – small-scale farmers in particular – need massive help in meeting such production and quality requirements so that they can access, or remain part of, the respective agrifood chains. Notably, market access and market entry barriers in OECD markets are less important if agricultural growth strategies in SSA emphasise the regional dimension of staple foods trade. In that case it seems more important to develop well-functioning local and regional markets, and to facilitate intra-SSA trade through removing tariff and non-tariff barriers, customs procedures as well as by upgrading transport and marketing infrastructure (see also under **aid** below).

Possible measures:

- Eliminate tariff peaks, tariff escalation, tariff rate quotas, SSGs and specific tariffs;
- Reduce all OECD tariffs to 5 percent by 2015;
- Help SSA countries to make use of TBT and SPS agreements; develop institutional frameworks and infrastructure to implement legitimate standards; and to facilitate DC participation in standard-setting platforms;
- Limit the restrictive effects of RoO by expanding cumulation opportunities, limiting value addition and processing requirements, and streamlining and harmonising them.
- Apply 'development test' – including impact assessment – when developing new standards, while consulting SSA stakeholders;
- Encourage intra-OECD harmonisation of standards;
- Introduce instruments holding agrifood retailers responsible for standards applied in contract farming, good practices etc. – especially in respect of implications for smallholders;
- Ensure respect of the competition laws with regard to companies holding a dominant position on the agrifood market – multinationals in particular;
- Encourages public-private partnerships between OECD countries, agrifood retailers and importers, as well as SSA countries, suppliers and exporters - to encourage a wider range of producers – especially small-scale farmers - to become standard compliant;
- Enter into ongoing public dialogue with relevant public and private sector actors both in OECD and SSA to promote fair process of standard development and implementation; and
- Support SSA producer organisations to strengthen bargaining power vis-à-vis agribusinesses and MNCs.

In terms of domestic policies related to food and agriculture, OECD countries would be well advised to provide SSA countries with the **policy space** they need for devi-

sing and implementing their domestically owed development and trade agendas. But SSA will require much external support to be able to translate their poverty reduction strategies into forceful and accelerated action.

Possible measures:

- Provide only fully demand-driven technical and financial assistance and capacity building;
- Support SSA countries in devising and implementing their own policies based on well-informed positions and in a self-determined manner;
- In the Doha Round negotiations, grant SSA countries all needed flexibilities with regard to pursuing their developmental and agriculture policies, including e.g.:
- An exemption for all SSA countries from tariff reduction commitments;
- Alternatively: a flexible and generous application of the concept of special products;
- Application of the special safeguard mechanism for developing countries on all products; and
- More flexibilities to use trade distorting subsidies, such as price support schemes for small-scale farmers;
- Use all flexibility with regard to less than full reciprocity and asymmetry in WTO legislation when negotiating EU-SSA Economic Partnership Agreements; and
- Consider EPAs as a tool for SSA development, rather than for opening up SSA markets for EU suppliers and FDI.

The trend of declining **aid** flows to SSA agriculture must be reversed. Spurring agricultural growth in SSA also required a concerted supply-side response tackling all major bottlenecks – ranging from governance issues to macro-economic stability; infrastructure improvement; as well as human, private sector and institutional capacity building. SSA countries further require help to adjust to the changes associated with increasing trade integration.

Possible measures:

- Bring combined agriculture aid back to 1985 levels;
- Increase overall aid flows to SSA by at least 100 percent;
- Revitalise donor focus on agriculture by promoting Programme-Based Approaches in agriculture and rural development (e.g. PRSPs and subordinate plans and strategies);
- Provide significant supply-side support to SSA, including help to build well-functioning local and regional markets, and to facilitate regional trade;
- Establish a Trade Adjustment Fund, supporting SSA countries to meet the economic and social costs of adjusting to an increasingly integrated trading environment, including costs accruing due to, e.g.:
- Preference erosion;
- Tariff revenue loss;
- Higher food import bills;

- Implementation of new food standards;
- Reintegration of vulnerable groups; and
- Analysis for purpose of trade negotiations.

All in all, it would be recommendable to establish a **Global Programme on Policy Transparency and Coherence** – e.g. under the aegis of the OECD – to ensure that OECD policies do not negatively impact on SSA efforts to develop and implement their own development and poverty reduction agendas. This would require undertaking development impact assessments on current and planned policy measures attributable to OECD countries; as well as ongoing and committed policy dialogue between key OECD and SSA public and non-state stakeholders – taking commendable efforts such as the Commission for Africa process as starting points.

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8. Discussion, OECD-policies affecting small-scale farming in Sub-Saharan Africa

8.1 Cashai Berhané and Anders Klum*

Berhané began by commending Werth on a good presentation and noted that he agreed with what he called the "messianic message" of the paper: "let them trade"! However, Berhané wished to pose a set of questions to Werth and the floor;

- In order for all these conclusions to be realised – what are the obstacles from the OECDs perspective?
- If not implemented – what are the consequences from an OECD-country perspective?
- From an OECD-perspective today (in the post cold war era), what is aid (especially within agriculture) trying to achieve? – is it a bribe, a compensation for colonisation?

Klum's discussion centred on a number of complexities related to agriculture and trade:

* Cashai Berhané, ACP Trade Negotiator, Belgium and Anders Klum, Director, Swedish Ministry of Agriculture

- A comparison between Africa and Asia was made in which Klum argued that in the long- and mid-term, small-scale agriculture is needed to accomplish poverty reduction in Africa in order to accomplish a development similar to the Asian case of parallel industrialisation. *Historically, however, he wished to caution that wealth in the North has been accomplished through a decrease in agriculture*, where the share of people employed within agriculture has fallen. This aspect needs to be kept in mind when discussing African agriculture.
- *The issue of protection of African agriculture* was raised. Although African agriculture was perceived to have certain natural comparative advantages in terms of for instance climate, Klum argued that protection may be justified in the light of OECD-policies. He could discern certain positive developments in relation to OECD policies, for instance the gradual reform of the EU system of support and a discussion in the US that aid towards farmers in the EU is not conditioned by need (indeed the richest parts of the farming community receives the largest share of direct subsidies),. However, even decoupled aid to OECD-farmers has an influence on farm support in OECD countries, he cautioned.
- On the question of the *Sanitary and Phytosanitary Standards*, Klum argued that these were correctly described as something to be vigilant about in the future. He suggested that assuming that the EU-market will not be opened up in this respect is erroneous and pointed to the ecological regulations currently being opened up to the least developed countries. In general, he also suggested, it is very dangerous to allude to having less demanding quality controls on third country producers and argued that technical assistance to third countries to fulfil the requirements of the EU-market in this regard were preferable to lowering standards towards African producers.

8.2 Round-table discussion

- A discussion on the question of *protection of African agriculture and the question of trade liberalisation* centred on a number of issues. A number of participants argued that in the light of OECD-policies, protection of African agriculture may be justified, especially in the short term as the lead time for adapting to a specific market situation is much longer for agriculture than for manufacturing. Bjerninger pointed to the recognition this has received in recent WTO negotiations, allowing the South to reduce barriers gradually. Participants also raised the more radical questions of resorting to the Nigerian model of banning imports of staples in the light of low import prices. Werth argued that the felt need for protection of the agricultural sector among African countries should be for these governments (rather than the WTO or the World Bank) to decide, but that the Nigerian ban was understandable.
- Sarris commented on the presumed impact of trade liberalisation and argued that the analysis is focused on global models, which in turn are heavily dependent on closure rules (macro conditions) based on assumptions of full employment and fixed external foreign exchange rates. According to analyses by the FAO, such models imply larger benefits from trade liberalisation as compared

with the situation where these conditions are not fulfilled. Sarris therefore argued that the benefits from trade liberalisation are much smaller to the least developed countries than is often assumed by the lay public. Havnevik argued along similar lines on the basis of work by Paul Bairoch, an economic historian who questions the basic assumption of the absolute advantages of trade. According to Bairoch, countries found at inferior levels of development in relation to their trading partners are likely to lose out in the process of opening up for trade.

- The special nature of food as a traded commodity was raised by a couple of participants. Bjerninger for instance was concerned with how food security could be guaranteed in the context of gradually dismantled OECD support to agriculture in the North in the context of adapting agriculture in the South to global market changes. The consequences of rising world market prices for food staples to food importers in Sub-Saharan Africa are important to consider in this respect. Havnevik likewise discussed the character of food as a commodity for which the reliance on remote trading partners may be potentially detrimental to food security.
- The discussion also pointed to the *relative competitiveness and comparative advantage of African agriculture*. African agriculture was felt to have a comparative advantage in terms for instance of climate. Hazell advanced the strong view that the debate was too short sighted and pointed to the latent demand for agricultural products resulting from the tripling of incomes among 3 billion Asians in the next 10-15 years. In addition, the diversification of diets would lead to large market opportunities for African products, especially in land constrained countries. By contrast European markets are already saturated. The necessity of supply-side measures to realize these opportunities was also raised by Hazell (and earlier by Sarris). However, supply-side measures are needed to double or triple productivity within the next 10-15 years.
- In this context also the question of South-South trade was raised in more general terms, pointing to the latent demand from regional food markets currently the subject of large restrictions. Sarris advanced the view that addressing intra-regional trade restrictions should be an alternative focus. Werth agreed that South-South trade constitutes an important potential for African agriculture, but also cautioned that the championing of South-South trade by the Cairns group within the WTO may be based on ulterior motives.
- The relationship between trade and aid, aid for *trade and aid to agriculture* more generally was also discussed at some length, following the question by Berhané on the nature of OECD aid to developing countries in the post Cold War era. Jones argued that aid to the agricultural sector should be demand-driven, as the tendency otherwise would be for donors to drive the process of agricultural development. Werth however, suggested that the notion of demand-driven aid was unrealistic as the public in the North in general were concerned with the way public funds are spent in relation to aid. A broader issue was raised as to whether aid was promoting laziness among African governments. On this subject a certain amount of dissension could be discerned.

- Sarris commented on the relationship between trade and aid and argued that the aid policies of the international financial institutions such as the World Bank have tended to promote trade (especially the export sector). This has resulted in a situation where a very large share of the product value accrues to international companies rather than the farmer. Werth in agreement with Sarris suggested that aid to enable trade should be centred on the demands of the African countries, rather than those of the international financial institutions.
- Mkandawire in response to the question of what motivates Nordic countries to support countries in Africa (in contrast for instance to the international financial institutions) posed the question of whether the Nordic aid agencies had evaluated the return to their earlier aid efforts within the agricultural sector with reference to their objectives at the time.
- Another topic of discussion came to *consider the role of OECD support to its own agricultural sector and the system of trade preferences* between the EU and ACP-states as an indirect consequence of the CAP. Berhané raised the issue of OECD perspectives on subsidies and the initial discussion came to focus on the legitimacy of such support. A general consensus on the role of agriculture as a question of culture and identity, and not only production, emerged in the context of Europe. Werth raised the issue that the preservation of the cultural value of the agricultural sector in Europe requires state support. Havnevik similarly argued that the legitimacy for supporting agriculture in the North is linked to issues of natural resource management. In Norway, for instance, only one third of costs would be carried without agricultural subsidies. Werth pointed to the alliance of interests between Europe and the ACP-states in defending the CAP as a way of avoiding a US large-scale farming system in Europe on the one hand and preserving the preferential access to the EU market by the ACP states on the other. The effect of this alliance in turn, argued Werth, is a conflicting view among the countries of the South in relation to OECD-subsidies. The distributional effects of trade preferences was also raised with Wretborn arguing that a more profound analysis is necessary tracing the impact for the preferentially treated country in terms of who benefits (large farms more likely) when the domestic market shrinks as the country shifts its production towards the export market.
- The reform of the CAP specifically and OECD systems of support more generally, was also raised. The development within the EU was regarded as a positive tendency Wretborn argued, although even decoupled support would have an influence on production. Werth, referring to the keynote address by Jämtin, however, suggested that subsidies were likely to remain for the foreseeable future in the OECD countries, although their size may be gradually reduced. In sum, Werth suggested that European agriculture is in need of some kind of support also in the future, but called for such measures to be restricted to distorting the EU-market alone.

- A lengthy discussion on the issue of *standards in general and standards as a trade barrier* more specifically followed. Werth suggested that real EU commitment needs to be seen through opening up non-tariff barriers to agricultural imports in general from the South, and not only through limited initiatives on ecological products which he described as slightly patronising. An overwhelming consensus emerged that less demanding quality controls on third country producers of agricultural products was counterproductive as this would suggest to consumers that goods from these countries are of inferior quality. Sarris pointed to the difference between the private and public sector as determinants of standards and argued that private standards are the prerogative of the private sector in the sense that retailers are free to adopt whatever standards they wish to. Selänniemi in this context cautioned that private sector determination of public health standards poses a latent threat to public health and safety. Sarris focused instead on the negative role of standards as a possible trade barrier to imports of agricultural goods from Africa to the OECD countries. On the basis of US pistachio producers he identified a potential danger of the public sector adopting unnecessarily strict standards in response to lobbying from domestic producers interested predominantly in protecting their markets from foreign competition. Also pointing to the European policy of zero-tolerance for certain additives for instance he suggested that the austerity of such standards may be gradually increased as methods of measuring additives improve and called for the consequences and implications of harsher standards to be addressed.
- Technical assistance to third countries to fulfil the requirements of the health and food standards of the EU for instance were advanced as the way forward in relation to setting standards by a number of participants.
- Lastly, issues of *policy-space and governance* were discussed. Sarris pointed to the limited policy space of African governments in relation to determining their tariff levels and argued that this was a consequence of pressure for reducing tariffs from multilateral institutions and donors. This has prohibited countries from raising their applied tariffs, despite a formal right to do so. In response Werth remarked that African governments are not using their policy spaces and that in general the entire concept of policy space violates the WTO principle of equal trading opportunities. Within the framework of the WTO however policy space is implemented through Special Preferential Treatment. Whereas Sarris focused on the exogenous constraints of African governments in using policy space, Friis-Hansen argued that African governments were not using their policy space to protect the interests of their own countries. Following this discussion he suggested that the question of marginalisation of African agriculture does not stem from OECD subsidies alone but is also related to mismanagement in the African countries themselves.

Synthesis, conclusions: What policy lessons for African countries?

Edward Heinemann and Eleni Gabre-Madhin were instrumental in compiling a synthesis of the discussions throughout the workshop. They chose to structure this around six major recommendations and agreements emerging from the workshop:

1. agricultural growth is key
2. Africa needs a productivity revolution
3. agricultural growth must be market-led
4. making markets work involves both private and public sectors
5. collective action by farmers is critical
6. Africa must lead its own development

1. Agricultural growth is key

- Africa cannot achieve the MDGs without a concerted focus on rural, broad-based, growth
- Agriculture is key to economic growth and poverty reduction in sub-Saharan Africa
- While non-traditional, high-value, agriculture is clearly important, the greatest gains in poverty reduction and growth will come from growth in food staples (crops, livestock, fish), due to the structure of African economies
- Need to turn around declining aid and investment in agriculture by both governments and donors
- Need to remove OECD distortions
- Need to achieve donor policy coherence (Sweden-led)

2. Africa needs a smallholder productivity revolution

- Africa is the only region where food productivity has not increased
- Increased productivity will generate a surplus for market, generate non-farm demand and employment, and increase rural household incomes
- To close the yield gap, technology generation and diffusion requires greater support:
 - There are important success stories to recognize and build upon:
 - cassava, NERICA, farmer innovations
 - examples of intensification, commercialization, specialization of farm systems.
 - There is an African institutional framework in place to support: FAAP, NEPAD/CAADP

- However, the yield gap will not be closed by technology alone:
 - Knowledge gap within rural communities
 - Weak security of land tenure constrains investment and NRM
 - Input use is extremely weak:
 - input prices are the highest in the world
 - missing financial markets constrain input adoption
 - Need to urgently address input delivery systems, included pre-reform inter-linked input-output markets

3. Agricultural growth must be market oriented

- Unique African challenge: to achieve market-based Green Revolution, which implies greater risk for farmers
- Market and trade opportunities must be targeted at domestic, regional, and global levels (in that order)
- There is no pure subsistence model out there: most smallholders are engaged in the market as both buyers and sellers – False dichotomy of smallholder versus commercial
- Need concerted policy focus and interventions to promote market participation of smallholders, regardless of scale or location

4. Making markets work involves private and public

- Private sector led markets are emerging but appropriate public sector role must be developed
- Inconsistent and ad hoc approaches to interventions by both donors/NGOs and governments to support markets
- Market development must be holistic, addressing 3 I's (incentives, infrastructure, and institutions), and tailored to specific market and societal conditions
- Reducing market margins is vital to achieving market potential
- Need a strategy to manage volatility and risk that involves short and long-term approaches.

5. Collective action by farmers is critical

- A whole range of new and innovative farmer organizations are emerging at various levels (local, national, regional), with considerable variation across countries
- Increasing space for these organizations is being opened up through democratization and decentralization and the dismantling of state institutions
- These organizations play a critical role:
 - Access services and markets
 - Hold governments accountable
 - Engage in policy processes
- Need further support at different levels:
 - Emergence and sustainability and social inclusiveness
 - Larger scope for engagement at national/regional levels
 - Agenda must be driven internally, not by donors/governments

6. The state has an appropriate role

- Need to support partnership between state and civil society
- Need to address public goods and services
- Need to create enabling environment and public goods for private markets to thrive
- Need to be accountable to the citizens

7. Africa must lead

- African participation and ownership of the agenda is emerging (NEPAD, RECs, SROs, national governments)
- Need for international community to respect and enhance this process
- The poverty reduction strategy and MDG processes are evolving toward greater emphasis on the rural growth agenda
- These processes are also gradually becoming more inclusive
- Responsibility for governments to increase focus and resources to rural sector, and to lead donors in aid effectiveness agenda. Donors to support and respond to this.

8. Can Africa do it?

- More favorable domestic policy environment:
 - Emerging private sector
 - Active civil society
 - Inclusion and participation
 - Commitment to governance
- Commitment by African governments to agriculture, markets, and investment
- New innovation systems are emerging
- Success stories to build on
- Increased pressure within OECD for pro-poor

9. Take-home messages

- Agricultural growth is key to stimulate rural development, alongside non-farm development
- Africa needs a productivity revolution
- Agricultural growth must be market-led
- Making markets work involves private and public
- Collective action by farmers is critical
- There is an appropriate role for the state
- Africa must lead
- Can Africa do it?

10. Discussion

The discussion following their presentation evinced a certain amount of disagreement among the participants, for instance in relation to the *components of agricultural growth*. The relationship between increasing yields and its relationship to labour productivity was one of the starting points in this discussion. Havnevik argued that increasing yields is an element of labour productivity and that one of the major issues related to agricultural growth is increased labour productivity. Sarris in response argued that rising agricultural productivity is a consequence also of rising land productivity, which in turn can be raised fairly easily through existing technologies if inputs are applied correctly. Rising agricultural productivity in general is a result of increasing total inputs and the efficiency with which inputs and labour are used as well as the use of better technology. Hazell, likewise questioned the statement that rising yields are an effect of increasing labour productivity.

The *definition of food staples*, it was suggested, should be widened to include also livestock and fish and not only crops. Another widening of perspectives was suggested by Havnevik who argued that an agricultural perspective was too narrow,

and called for a focus on rural and broad-based growth in which excess labour released by the agricultural sector as a result of rising labour productivity could be employed within the wider rural sector. Urban employment he suggested was not an option for this kind of labour.

The question of whether *trade* should be included in the synthesis was dismissed on the grounds that initial supply-side measures are necessary to make goods tradeable and that the basic solution to balance domestic price fluctuations would be improved infrastructure, rather than resorting to trade for this purpose.

The social aspects of a *productivity revolution* were also raised by a number of participants who agreed that this is a necessary component of a general rise in productivity. At a technical level, Friis-Hansen also suggested a need to emphasize the input markets for pro-poor technology. He argued that presently, inputs are accessed through projects and programmes providing inadequate continuity in terms of farmer's access to inputs.

Friis-Hansen at a more general level also questioned to what extent the recommendations presented by Heinemann and Gabre-Madhin differed from the agricultural development agenda being promoted thirty years previously. *Why should we be so optimistic now* concerning a productivity revolution, wondered Friis-Hansen? Rahmato confirmed the inherent scepticism in this query and suggested that the negative examples from Africa are many and that political factors in general are the cause of the poverty of small farmers. Hazell argued that recently a number of success stories have emerged which can be built on, for instance the West African cassava revolution. Agriculture's annual growth of 2.5 per cent since 1980 is twice as fast as the manufacturing sector's growth (1.2 per cent in the same period)!

Heinemann in response to Friis-Hansen's question also argued *that at regional and national level more commitment and more effective policies* are in place than was the case three decades ago. Keller in addition suggested that the policy environment is more enabling also at the international level, with the EU for instance striving towards policy coherence. Hazell seconded the view that the policy environment in general is more favourable, while Jones in addition suggested that new innovation systems are also in place. Friis-Hansen, however suggested that the role of civil society as a component of a more enabling policy environment also needs to be addressed. Abaru suggested that Kenyan civil society constitutes an example of an enabling policy environment for agriculture.

Carus suggested that issue of *governance and institutions* was not dealt with sufficiently as bottle-necks related to governance issues should be reflected in the agenda and that the general institutional framework needs to be addressed more closely. Also on the topic of governance, it was argued that policy in itself is not the problem, but that donors may not trust the new structures which are being put in place. Friis-Hansen in this context, however, pointed to the increased financial commitment of African leaders in terms of agricultural spending through NEPAD's CAADP.

Roundtable on the “new” agricultural agenda for Africa co-organised by the EGD, Sweden, and IDS, Sussex, June 12, 2006

*Lawrence Haddad and Jennifer Leavy**

1. Introduction

The key issues to be addressed at this roundtable were: (1) what is new about the latest agenda for African Agriculture? What were the causes of optimism and pessimism? And (2) what can be done (by donors in particular) to maximise the favourable conditions and developments and minimise the less favourable conditions? Those present included academics and policy makers.

2. What is new about the latest agenda for African Agriculture

Lawrence Haddad presented some of his thoughts on the causes for optimism and pessimism comparing the agenda of today with that of the 1970s to the mid 1980s (see below). He noted that many of the items could switch panels, depending on context.

Causes for optimism

	1970s – 1980s	Now
A plan for Africa	None	Comprehensive Africa Agriculture Development Programme has high level of political support in Africa
Recognition of heterogeneity	Low	Higher (e.g. Food and Agriculture Organisation; International Food Policy Research Institute classifications)
Approach	Green revolution	Rainbow evolutions/ tension with harmonisation
Investment level in agriculture	Medium	Low, but commitments to increase African investment to 10% - agreed in Mozambique
Markets	Not important or all-important	Seen as necessary but not sufficient
State	Not important or all-important	Seen as necessary but not sufficient
Higher education in Africa	Commitment medium, then weakened	Commitment is stronger now.
Trade policy	Common Agricultural Policy ‘rules’	Pressure to open up OECD markets and stop subsidising OECD farmers
Global value chains	Weak	Strong, but easily switched and can lead to inequality at source

* Institute for Development Studies, Sussex University, UK.

Causes for pessimism

	1970s – 1980s	Now
Poverty levels	High	Still high, although falling
Water control	Low	Low
Infrastructure	Weak	Weak
Local institutions	Talked about, not much space for them, but not seen as central	Talked about, more space for them, but still not seen as central
Agriculture as livelihood	Strong component	Less attractive to 20-somethings
China	Not on radar screen	Significant opportunities; significant threats
HIV/AIDS	No large impacts	Large impacts
Population pressure	Half the population of 2006	Population of 1980s has doubled
Food and Agriculture Organisation	Strong	Weak
Ministry of Agriculture	Central to agriculture	Weak, but still have a key role
Vulnerability	Medium	Higher (climate change, AIDS, poverty)
Disciplinary approaches	Weak on politics, anthropology	Still the same

The ensuing discussion focused on a number of key issues raised in the above slides, but also on key areas missed; Corruption (is it any worse today? is the faith of farmers in the state and market any weaker today?), land reform (there are more successful lessons to draw from elsewhere, despite many failures in Africa), soil fertility (deemed to be worse today), macroeconomic fundamentals in place (also worse today compared with the 1970s), and lessons from integrated rural development (that action can be conceived of in the rural space, but it does not have to be jointly implemented in an integrated way). It was also noted that evaluations undertaken in the mid 1980s and 1990s were so damning that they did not hold back the tide of budget cuts to agriculture. One respondent also felt that the presentation by Haddad underplayed the strength of local institutions for agricultural development. The importance of governance issues was also stressed.

Magnus Jirström made a presentation that stressed the similarities between Sub-Saharan Africa today and India pre-green revolution conditions in terms of population density, irrigation density, and the sense that nothing would happen on its own to improve productivity. The presentation recognised the many differences too, acknowledging the significant difficulties and a number of conditions that work against an Asia-inspired rapid rural development, notably the dampening effect on incentives of very low-level of world prices in agriculture, competition with low-cost producing Asian farmers, and the absence of links between industry and agriculture. It also highlighted the political nature of the choices made to support or not support agriculture in the medium to long term.

A respondent pointed out that the recent re-focusing on agriculture has meant that rural development appears to be mentioned relatively more rarely these days, and questioned whether agriculture or rural development more broadly should be stressed. There was a discussion about the strategic relevance of this choice.

Further discussion centred on the crucial role of institutions and norms, at the local level such as farmer organisations as well as the importance of governance and political commitment both in-country and from donors, for agriculture-

based, market-led development. From the donor point of view there was a sense that there has been a lack of strategy for dealing with institutions, any new strategy should be country-led and the real test will be in implementation.

Jennifer Leavy presented the Future Agricultures consortium's proposed work on agricultural commercialisations for smallholder agriculture. She explained how the African and UK partners would start by mapping past work on smallholder commercialisations and then exploring how they would add value – explicitly by working together to add institutional and policy processes dimensions to any new analyses and embedding them in their local contexts. A key cross-cutting issue that the theme will focus on is the key role of labour markets and labour exchange in allowing the most vulnerable people to access the benefits of agricultural growth through commercialisation.

The following presentation from Kjell Havnevik of the Nordic African Institute focused on:

- Innovation – how to reduce the uncertainties for farmers? Is the current (and the historic) agricultural research and development system organised in the wrong way, aiming at the wrong users? How to support a greater lead-user perspective – that is actors who have a capability to see the potential benefit from the innovation, and can act as social carriers of new techniques? How to support African R and D systems? Development of technology needs to be matched by development of the innovator. Central to this are democratisation and participation.
- Decentralisation and democracy – we need to legitimise local knowledge systems, and we need to capitalise on greater democratic space to support civil society to engage with governments on agriculture.
- Agricultural development needs to relate to both supply and demand problems – for instance food security is not only a matter of provision through production and trade, but as well a problem of entitlements, capabilities, access and demand.
- Institutions – they are weak, especially for land reform – donors must find ways to support land reform efforts. Agricultural development is embedded in the institutional, political and cultural contexts. Socio-cultural aspects are crucial and institutions play a central role in successful agricultural development, as do policy processes on many levels – global, national, regional, district, local.
- Can agriculture carry the entire burden of development? What are the other economic activities that need to develop in rural areas, including industry and services? And who is responsible for linking these up?

The discussion highlighted the following issues:

- If we open up the box of social considerations, how do we keep action manageable and practical?
- Can growth be socially responsible (what can be learned from the operationalising pro-poor growth agenda?) And who has the capacity to steer it in that direction?

3. What can be done to support the new agenda?

- CAADP is important because it has the backing of all stakeholders, at least in terms of rhetoric, but how can donors support it? Perhaps by signalling to African governments a willingness to address capacity gaps that they identify as key for successful implementation of CAADP at the country and sub-national levels.
- In their enthusiasm to support the CAADP process, donors must be careful not to take over (or be seen to take over) the process.
- How donors support capacity in African agriculture – at the individual, organisational and institutional levels – was also seen as a key issue.
- Is it a strength to have a continent-wide CAADP? Some felt it put off the nitty gritty discussions necessary for successful implementation. Others felt that this was a valid concern, but that politically, it was important to be at this level, although this does not rule out other strategies to build political support – i.e. at the civil society level.
- The challenges were recognised of providing incentives to farmers to act collectively in a political sense, but this was thought to be essential and something that the institutions could be strengthened to do. This would require a high level of confidence of the State in itself and changes in governance in the OECD (related to WTO, and areas such as money laundering, drug control and arms dealing).
- Donors could also support peer review processes that relate to CAADP related activities. In particular they could champion peer review that was geared to learning and acting upon that learning – not just being a defensive vehicle to justify funding and protect against future cuts. Any peer review needed to assess the indirect effects of investments in agriculture and the direct effects that are less easy to capture by convention means (such as vulnerability reduction and changing power relations)
- Somehow institutions need to be strengthened – those that are fast moving, slow moving and culturally embedded. Work on institutions in agriculture needed to be more empirical and practical. Work on mapping relationships within Ministries of Agriculture and between them and other Ministries and agencies was considered a high priority for the Consortium hosted by IDS. What should they be able to control, what should they be able to influence and what is impossible to influence? And compare this with what they do control and influence.
- A further point was made regarding the CGIAR system and in particular to continuously work with, and try to improve, IFPRI as an important knowledge resource base for African rural development and agriculture.
- Donors could also do more to bring together different bodies of knowledge on African agriculture – global and local, linear and complex, outcome and process, technocratic and contextual. This could include publishing support to African research.

Appendix 1: List of Abbreviations

AARINENA	The Association of Agricultural Research in the Near East and North Africa
AATF	Africa Agricultural Technology Foundation
ACP	Africa, Caribbean and Pacific
AGOA	US African Growth and Opportunity Act
ANAFE	African Network for Agriculture, Agroforestry and Environment Education
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
BASIC	Building Africa's Scientific and Institutional Capacity
CAADP	Comprehensive Africa Agriculture Development Program
CAP	Common Agricultural Policy
CGIAR	Consultative Group on International Agricultural Research
CORAF/WECARD	Conseil Ouest et Centre Africain Pour la Recherche et la Développement Agricole/ West and Central African Council for Agricultural Research and Development
CPA	ACP-EU Cotonou Partnership Agreement
CSA	Collectif Stratégies Alimentaires
CTA	Technical Centre for Agricultural and Rural Cooperation, ACP-EU
CUTS-CITEE	Consumer Unity Trust Society – Centre for International Trade, Economics and Environment
DFID	Department for International Development
EBA	Everything But Arms initiative
ECOWAS	Economic Community of West African States
EPA	Economic Partnership Agreement
EGDI	Expert Group on Development Issues
ECDPM	European Centre for Development Policy Management
FAAP	Framework for African Agricultural Productivity
FAO	Food and Agricultural Organization
FARA	Forum for Agricultural Research in Africa
GATT	WTO General Agreement on Tariffs and Trade
GCC	Global Commodity Chain analysis
GDP	Gross Domestic Product
GSP	Generalized System of Preferences
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HIPC	Highly Indebted Poor Countries
IAC	Inter Academy Council
IATP	Institute for Agriculture and Trade Policy
ICT	Information and Communication Technology
ICTSD	International Centre for Trade and Sustainable Development

IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IIED	International Institute for Environment and Development
IITA	International Institute of Tropical Agriculture
ILEAP	International Lawyers and Economists Against Poverty
ILRI	International Livestock Research Institute
LAC	Latin America and the Caribbean
MDG	Millennium Development Goals
MFI	Micro Finance Institutions
MRL	Maximum pesticide Residue Level
NARI	National Agricultural Research Institutions
NARS	National Agricultural Research Systems
NASULGC	National Association of State Universities and Land Grant Colleges
NATURA	Network of European Agricultural Tropicallly and Sub-tropically Oriented Universities
NEPAD	New Partnership for Africa's Development
NERICA	New Rice for Africa
NGO	Non Governmental Organization
NIE	New Institutional Economics
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
ONPV	Office Nigérien des Produits Vivriers
PAF	Agro-Forestry Project
PATECORE	Projet Amangement des Terroirs et Conservation des Ressources dans la Plateau Central
PPA	Participatory Poverty Assessment
PRSP	Poverty Reduction Strategy Paper
REC	Regional Economic Communities
REPA	Réseau d'Expertise des Politiques Agricoles
ROPPA	Le Réseau des Organisations Paysannes de l'Afrique de l'Ouest/Network of Farmers and Producers Organizations of West Africa
RSA	Republic of South Africa
SADC-FANR	Southern Africa Development Cooperation – Food, Agriculture and Natural Resources
SAP	Structural Adjustment Programme
SFFS	Small Farms and Food Staples production
SNRD	Sector Network Rural Development in Africa
SPS	Sanitary and Phytosanitary Standard
SRO	Sub Regional Organizations for Agricultural Research
SSA	Sub-Saharan Africa(n)

SWAC	South West Africa and Sahel Club, OECD
SWC	Soil and Water Conservation
TBT	Technical Barriers to Trade
TC	Tissue Culture
TCE	Transaction Cost Economics
TNC	Trans National Corporation
TRQ	Tariff Rate Quota
TRTA/CB	Trade-Related Technical Assistance and Capacity Building
UEMOA	West African Economic and Monetary Union
UN	United Nations
UNECA	UN Economic Commission for Africa
USD	US Dollar
WARDA	Africa Rice Center
WFP	World Food Program
WHO	World Health Organization
WTO	World Trade Organization

**Appendix 2:
Participants in the workshop regarding Policy, Poverty and
Agricultural Development in Sub-Saharan Africa,
Stockholm 8 – 9 March 2006**

Ms. Millie Abaru
ICRAF
Kenya

Ms. Hanne Carus
Ministry for Foreign Affairs
Denmark

Ms. Mari Albihn
Sida natural resources department
Sweden

Mr. Göran Djurfeldt
Professor, Sociology, Lund
University
Sweden

Ms. Agnes Andersson
Lund University
Sweden

Mr. Esbern Friis- Hansen
Danish Institute for International
Studies
Denmark

Mr. Torsten Andersson
Sida regional rural development
Nairobi
Sweden

Ms. Eleni Gabre-Madhin
Program director, IFPRI
Ethiopia

Mr. Odd Arnesen
NORAD
Norway

Ms. Eidi Genfors
Head Sida regional rural
development Nairobi
Sweden

Ms. Gunnel Axelson -Nycander
Church of Sweden
Sweden

Mr. Inge Gerremo
Sida natural resources department
Sweden

Mr. Cahsai Berhané
ACP trade negotiator
Belgium

Mr. Mamadou Bara Gueye
Director, IIED
Senegal

Mr. Jan Bjerninger
Head Sida natural resource
department
Sweden

Mr. Kjell Havnevik
Researcher Nordic Africa Institute
Sweden

Mr. Peter Hazell
Visiting professor, Imperial College
UK

Mr. Håkan Marstorp
Sida, Sarec
Sweden

Mr. Ed Heinemann
Regional Economist, Africa II region
IFAD

Mr. Richard Mkandawire
Professor, agricultural advisor
NEPAD

Mr. Torgny Holmgren
Head of Department for Development
Policy, Foreign Ministry
Sweden

Mr. Tom Mugisa
Program officer Technical Services
PMA
Uganda

Mr. Mats Hårsmar
EGDI, Ministry for Foreign Affairs
Sweden

Mr. Willie Odwongo
Director, PMA
Uganda

Mr. Monty Jones
Director, FARA
Ghana

Ms. Ingrid Peterson
State secretary, agriculture
Sweden

Ms. Carin Jämtin
Minister of development cooperation
Sweden

Mr. Dessalegn Rahmato
Manager, Forum for Social Studies
Ethiopia

Mr. Robert Keller
Africa department, Ministry for
Foreign Affairs
Sweden

Mr. Alexander Sarris
Head FAO
Italy

Mr. Anders Klum
Ministry of Agriculture
Sweden

Mr. Ian Scoones
Researcher, IDS
UK

Mr. Marjatta Selänniemi
Ministry for Foreign Affairs
Finland

Ms. Annika Söder
State secretary, development
cooperation
Sweden

Ms. Judi Wakhungu
Director, ACTS
Kenya

Mr. Ananda Welwita
UN Habitat
Kenya

Mr. Alexander Werth
Consultant
Uganda

Ms. Ingrid Widlund
EGDI Secretariat, MFA
Sweden

Mr. Christer Wretborn
Swedish FAO-delegation, Rome
Sweden

Mr. Mats J Åberg
Ministry for Foreign Affairs
Sweden

**Appendix 3:
Participants List: African Agriculture – How to Promote the New (?)
Agenda: Stockholm Workshop 12 June 2006**

Ms. Agnes Andersson
Dept for Cultural Geography,
Lund University

Mr. Mats Hårsmar
EGDI, MFA
Sweden

Mr. Jens Andersson
Ministry of Finance
Sweden

Mr. Magnus Jirström
Lund University, Dept for Cultural
Geography
Sweden

Mr. Daniel Asplund
Natural resource department, Sida
Sweden

Mr. Bertil Odén
Consultant
Sweden

Ms. Åsa Bjällås
Natural resource department, Sida
Sweden

Ms. Johanna Palmberg
Natural resource department, Sida
Sweden

Ms. Amalia Garcia Thärn
Swedish MFA, Unit for multilateral
cooperation
Sweden

Ms. Carin Wall
MFA
Sweden

Mr. Inge Gerremo
Natural resource department, Sida
Sweden

Mr. Lennart Wohlgemuth
Centre for Africa Studies, Gothenburg
university
Sweden

Mr. Lawrence Haddad
Institute for Development Studies,
UK

Mr. Kjell Havnevik
Nordic Africa Institute
Sweden

Mr. Torgny Holmgren
Department for Development
Policy, MFA
Sweden

Sub-Saharan Africa is the only major region in the world where poverty is increasing rather than going down, and where human indicators tend to worsen. A major cause of this is the crisis in agriculture, especially in the production of food staples. Hence, productivity increases are needed – but how could this be achieved?

This volume contains the proceedings from a workshop on “policy, poverty and agricultural development in Sub-Saharan Africa”, held at Frösundavik, Sweden, in March 2006. It discusses a number of themes central to this question: the role of research and technology, the need for institutions that could improve the functioning of markets, what policies African governments ought to apply, as well as what OECD countries ought to do with their policies.

The volume sets out with the broader discussion on what role agriculture as an economic sector might have in contributing to pro-poor growth on the continent. Policy recommendations are also provided.



REGERINGSKANSLIET

**Ministry for Foreign Affairs
Sweden**