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FARMERS AND FOOD SECURITY

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Paper by Philip Kiriro

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Introduction

Of the 1.2 billion people in the world that are estimated to live on less than one dollar a day, about three quarters work and live in rural areas, and depend to a large extent on agriculture. Agriculture accounts for a large share of the Gross Domestic Product for the low-income food-deficit countries (LIFDCs). It employs a large proportion of the labour force, represents a major source of foreign exchange, supplies the bulk of basic food and provides subsistence and income for large rural populations. Thus significant progress in promoting economic growth, reducing poverty and enhancing food security cannot be achieved in most of these countries without developing more fully the potential productive capacity of the agricultural sector and its contribution to overall economic development.

Despite the recognized importance of agriculture to economic development, aid in support of agriculture has fallen sharply in both absolute and relative terms. The consequent has been slower growth in staple food yields and increase in poverty. According to the International Fund for Agricultural Development (IFAD) Rural Poverty Report, 2001, real net aid disbursement to developing countries has fallen from 2.7% of GDP in 1992 to 1.4% of their GDP in 1998. Over the same period, of these smaller aid disbursements, the proportion allocated to agriculture, forestry and fisheries has declined from 20.2% to 12.5%.

The erosion of funding to agriculture is extremely damaging to efforts to reduce poverty and hunger. This neglect of agriculture in terms of both international development cooperation and domestic resource allocation must be addressed if the challenging targets on poverty reduction, inequality and food insecurity are to be achieved. Their elimination must be at the heart of any meaningful development effort. Continuing positive economic growth and for most African countries, agricultural growth is essential for poverty reduction. The ACP-EU Trade Agreement or the Cotonou Partnership Agreement has the potential of ensuring that this happens, as its central objective is to reduce and eventually eradicate poverty while contributing to sustainable development of African Caribbean and Pacific (ACP) countries.

This paper starts with an assessment of recent trends in growth (years of adjustment 1980 and 1990s) and performance of agriculture in developing countries. Issues that are impacting on the performance are discussed as well as those that must be addressed if African agriculture is to be revitalized. Some emerging issues of concern to developing countries rural development are also observed.

Trends in Agricultural Growth and Performance

Since the late 1980s and early 1990s, many developing countries have implemented domestic policy reforms, which have reduced the policy bias against agriculture. The common objectives of these reforms are to enhance productivity, raise the level of domestic production of basic food commodities to their potential; improve the quality and standards of products; diversify production and exports.

But after almost two decades of macro-economic stabilization, market oriented policy reforms and some degree of state withdraw from economic activities related to agriculture, a few questions remained unanswered or only partly answered. These include:

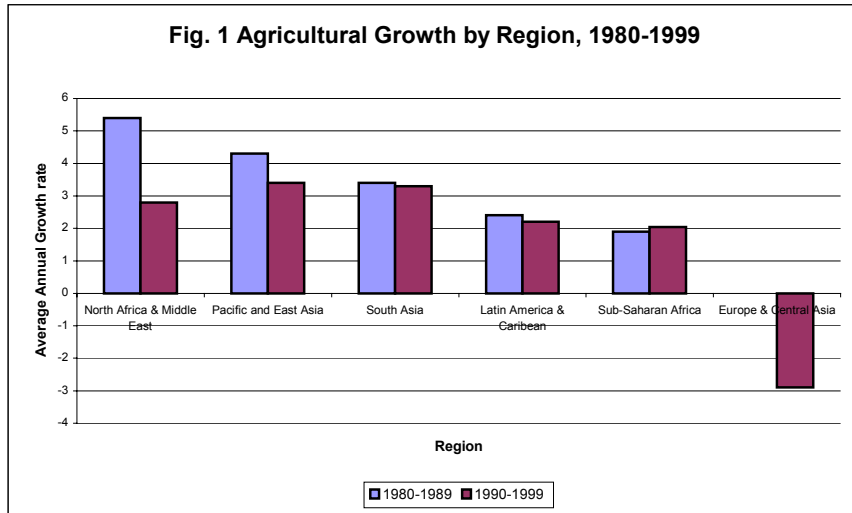
- The impact the policy reforms have had on the level and distribution of incomes, particularly in rural areas;
- The impact that policy have had on the performance of the agricultural sector, and what are the reasons for the different outcomes in different countries;
- Which changes must be considered to improve the effectiveness of policy reforms with respect to agriculture and rural development;
- Consequences such changes imply for the role of the state in agricultural and rural development.

In this section, an examination of agricultural performance during and after reforms is made.

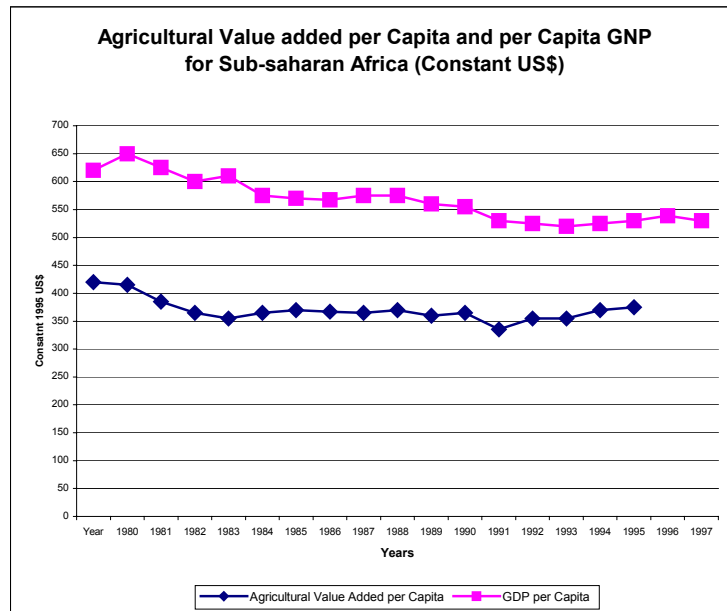
Aggregate growth rates in overall African agriculture improved during the 1990s but still lagged behind most other developing regions (figure 1). However, the general improvements in the 1990s masks wide disparity in the performance of countries throughout the region. Apart from diversity in resource and factor endowments within Sub-Saharan Africa, the countries differ greatly in their ability to commit politically to actions to increase growth and reduce poverty. During the 1990s, about 25% of the countries in the region were able to maintain agricultural growth rates of 4% or better (Table 1); compared to only 5 countries out of the 48 in the 1980s. But while agricultural output grew in Africa, productivity has not.

The share of total value added accruing to farmers and more generally, to the rural population is used in this paper to show trends in agricultural productivity. This is compared with GDP per capita for each country. The most significant criteria that can be used to assess the performance of agriculture is the growth of agricultural GDP. Increasing return per agricultural worker helps to fuel economic growth by generating the

surplus that can be used for investment in agricultural and non-agricultural activities, and is widely regarded as the first step in the process of agricultural transformation (Timmer, 1988). The value per rural worker for African countries has declined over the last two decades (figure 2). During the 1990s agricultural productivity stagnated at about 360 per worker (constant 1995 US\$), compared to US\$424 in 1980.



Source: World Bank Development Indicators



Source: African Development Indicators

Growth in yields in agriculture has been falling or at best level in many countries. Of particular, cereal yields in African countries are just over 50% of the world average (World Bank, 2001).

Low agricultural productivity is likely to be a result of low investment in most of the factors that contribute to productivity. For instance, only 4% of the land under cultivation is irrigated in Africa as compared to 14% in Latin America and the Caribbean, a region with similar population densities and resource endowments. Fertilizer application is 15% lower than it was about two decades ago. Endemic diseases, both human and animal have played a big role. There is less investment in human capital as shown by declining literacy levels.

The consequence of the low productivity has been erosion of competitiveness for African agriculture in the world market. Africa's share of the world trade fell by 8% in 1965 to 3% in 1996. While some of the factors reducing productivity are internal to the countries (such as under-investments in research, poor development of input markets, insufficient attention to grading and standards); others are external and outside the control of the African governments, such as lack of progress on reform of global agricultural trade and the national resource endowment.

The largest trading partner for most of Africa is the European Union, which accounts for 50% of exports, and about 41% of the imports. Together with North America, they account for 65% of exports and about 70% of imports. Thus the largest share of Africa's exports is destined for highly protected markets. Opening up these markets could make a difference to the regions agricultural and rural development. The fourth WTO ministerial meeting held in Doha in year 2001 presented a new opportunity for developed countries to remove the remaining obstacles for developing countries to negotiate for fairer trade, equitable development and inclusion in world progress.

But whatever the influence of external and internal situations, a few issues must be taken into account in generalizing the impact of the reforms viz; the conceptualization and design of the reforms themselves, including their intended timing and sequencing; the effectiveness of the implementation, taking into account the degree to which reforms have been adopted and the way in which the reform process has been implemented, including the political constraint and capacity to implement them; the responses the reforms have generated in the in the agricultural sector and in particular, the capacity of the private sector to fill the vacuum left by the state intervention e.g. in provision of inputs and services. These variables are not easy to construct but their knowledge may lead to a more precise evaluation of the effects of the policies.

Emerging Challenges to Agricultural development and Poverty Reduction

1. Globalization and International Trade Liberalization

Globalization is a term though widely used is very seldom precisely defined and several definitions have been put forward that put the stress on different aspects of the phenomenon. From a narrow economic point of view, the term refers to the fast-growing degree of interdependence among countries and regions through increased international trade and capital flows. A broader definition may include aspects such as information, environment, and social cultural and even health issues. Government and the role of the governments is also affected by globalization, as the importance of global governance bodies and agreement (e.g. the WTO) increases, and also as a worldwide trend towards less regulations and more role for the markets gains strength. Besides global governance, a number of trade and currency unions, multilateral environmental agreements (e.g. biodiversity and climate change conventions) are now in place. That has significant implications at the national level.

While the interdependence implied in globalization is not new, the speed of expansion of their global dimension is new. Trade has grown twice as fast as the world GDP in the last decade.

Globalization presents both opportunities and threats and the challenge for policy makers is to spell the mechanisms through which they may materialize. Of concern to agricultural development is the risk of further impoverishment of poorer countries and poorer groups of population, deteriorations of their food security. The tendency towards trade liberalization is likely to lead to unstable and increased average international prices for most products. It is therefore important for increased understanding of factors which influence a countries capacity to adjust to shocks and/or to reap the benefits of opportunities.

As mentioned earlier, there are several issues regarding the implementation of trade liberalization policies. While the evaluation of past experiences is one of them, others are of relevance to future negotiations.

One of the problems in starting a new round of multilateral trade negotiations is the increasing scepticism with which many developing countries now look at the potential benefits and costs of freer trade. That is because the benefits that they have managed to reap following the Uruguay Rounds (UR) and the Lome Convention, are seen by many as much more limited compared to what the expectations were. These concerns were clearly put forward during the WTO ministerial Meeting in Seattle (December 1999).

The need to assess the experiences to date with the implementation of the Agreement on Agriculture before embarking into further negotiations was stressed. A major question is to what extent have developing countries been able to take advantage of the UR provisions and whether there have been particular problems for them in complying with the UR commitments and if so, in which areas and what is being done to overcome them. Such considerations should be made in any trade negotiations such as the Cotonou Agreement.

Another issue of concern is the erosion of preferential treatments for some countries. As benefits of preferential schemes are eroded, what additional options for special treatment in favour of groups of developing countries affected can be proposed, that would permit cost of adjustment to the increased competition at the world level? A detailed analysis of the likely impact of these other alternative measures is needed to reach an informed negotiating position on all sides. Of particular, the effects of these factors on export earnings and farm incomes needs to be identified and quantified.

Besides international agreements, regional trade agreements (RTAs) can be opportunities for expanding trade, strengthening the bargaining power of participating countries and also as a possible way to contribute to increasing food security at the sub-regional level. But certain questions remain regarding RTAs:

- What makes some RTAs successful and others not, and what has been the experience of poorer countries (e.g. Africa, Asia) in settings up RTAs
- What is the impact that different options for RTAs would have on national food security;
- Are RTAs a way to create trade or an obstacle to trade (trade diversion and increase in trade discrimination)?

Also relating to international agricultural trade is the question connecting to changes in the composition of agricultural output in response to the emerging trade environment. To what extent have changes in agricultural trade affected (or will be affected in the long-run) crop switching and the level of food production for internal consumption, and what are the implications? There is fear that as a result of globalization, import of processed food of lower nutritional value may increasingly replace traditional food items in the diet of local population, with a net deterioration in the quality of nutrition. This calls for nutritional impact analysis of trade policies.

An opportunity for developing countries exists in establishment of labels, which define specific condition of production e.g. organic agriculture or absence of genetic manipulations. Labelling increases the export potential of indigenous agricultural products. The potential for such measures to contribute to pro-poor growth and the mechanisms through which this may happen should be explored.

2 *Degradation of Natural Resources*

Increasing pressure on natural resources makes food production increasingly difficult. Soils are under stress from poor cropping practices. Much of Africa is subject to large variability in rainfall of plus or minus 35%, implying poorly predictable droughts and floods. Most of sub-Saharan Africa has very little storage capacity for water compared to the other regions. For instance, Ethiopia stores only 43 cubic meters per capita, compared to 746 cubic meters in South Africa and 6,150 in North America. The situation is made worse by rapid pollution of fresh water sources, degradation of forests and wetlands with serious consequence to the poor.

Since agriculture is the primary user of water, higher production to meet the need of a steadily growing population, means using water from more strained supplies. This calls for greater attention to the design of policies. More in depth analysis should be carried out on the impact of policy reforms on water resources, including the reduction in maintenance work, the cost effectiveness of the different types of irrigation scheme, the role of/and potential partnership between the public sector and social groups; for instance, what policy options for the Kenyan national irrigation system? At the same time farmers' awareness need be raised on sustainable uses of ground water to avoid over exploitation of water tables.

Of significance to sustainable agriculture is the issue of land tenure and land use. The ways land issues are handled in different countries influence both equality and efficiency in rural areas. In many areas traditional open and unrestricted land use systems are becoming unstable due to population growth, government policies, commercialization of agriculture, and changes in technology. In such cases the lack of secure land tenure and access to resources may pose a constraint to sustainable agricultural development.

Related to the land issue is the problem of conflicts. In the last decade, more than a quarter of the African countries experienced significant civil or international conflicts. About 4 million Africans are refugees. Conflicts present enormous challenges to rural development. In Angola for instance, a significant proportion of arable land has been laced with landmines and cannot be farmed. But, even in places not directly affected by fighting, conflicts destroy incentives to invest in farms and of businesses. Conflicts consume resources that government could otherwise spend on development needs.

3. *Improvements in Agricultural Research and Technology*

Agricultural research and technology plays a key role in poverty alleviation through increased food security and sustainability. Technological progress can help produce more, safer and higher quality food products, at a lower cost, and with lower depletion of the resource base.

In the past, agricultural research has been mostly concentrated on production in relatively high potential environments, and on traditional export and the main food commodities. A partial shift in emphasis is necessary for research strategies to include the development of technologies for indigenous food crops and non-traditional export commodities. Of concern is the reduced funding of agricultural research in most developing countries. There is thus need of exploring alternative funding strategies; whether public or private, or paid by the clientele.

Although privatization and liberalization have potential of producing gains and efficiency in agriculture, research and extension have a substantial public component and if completely privatized, some activities run the risk of being under funded. In particular, small-scale farming is more likely to be neglected, one because of high cost of access to research funding by smaller farmers and two possible lack of interest by the private research institutions. Cases of success systems in privatization of research and extension and their characteristics need to be sought with an objective of identifying what is replicable.

Of immediate concern, measures must be put in place to prevent the collapsing of public extension services given the importance of extension to the rural poor, New ways of delivering such services should be analyzed from a cost-benefit perspective. The experience with cooperation between farmers' cooperatives, associations, and community groups should be analyzed so as to come up with guidelines for better cooperation.

A technological issue of emerging concern is the impact of biotechnology in rural development of developing economies. Several questions remain partially unanswered regarding biotechnology:

- What are the prospects of it being used to address the needs of the poor and enhance food security?
- What are the risks of polarization of production in developed countries and displacement of agricultural output of developing countries through the substitution of food produced through biotechnological innovations, including that hitherto obtained only in tropical countries?
- What is its impact on biodiversity?
- How can co-operations among countries promote the acquisition of biotechnological innovations? This question is very pertinent to poor farmers given that access to new technology can be impaired by the increasing tendency towards patenting of new technologies and the wider enforcements of property rights. This may result in improved seeds that are more expensive due to incorporation of the cost of innovation, as well as patent protection. If adoption of such seeds requires more initial working capital, the adoption of genetically modified seeds (GMOs) may become more difficulty for the poor.

4. *Rural Infrastructure*

Lack of adequate, affordable and reliable infrastructure as it relates to access roads, water and energy supply, telecommunications are a major constraint to agriculture and rural development in developing countries.

Access to markets is strongly affected by the state of the roads and proximity to waterways. Better transport facilities easily translate into better availability of agricultural services and products, access to educational and financial institutions, and increased trade. Unfortunately, Africa has the lowest density of paved roads in the world and 14 of its countries hosting a third of its Africa's population are land locked. This hinders international trade.

Less than half of Africa's population has access to safe drinking water. Only about 5% have access to modern electricity, the remainder depends on traditional fuel, mainly wood (Sanghvi, 2000). On telecommunication, high disparities in access exist between urban and rural areas; the tele-density disparities have been estimated to be as high as 25:1 (Dymond, Juntunen, and Navas-Sabater, 2000).

To address the problem of rural infrastructure, improvements in investments must be made. African public investment must focus on selected rural growth areas, chosen on the basis of well-defined criteria to indicate socio-economic importance and natural potential of the areas. Communities and local authorities must increasingly be encouraged to share in financing and delivery of services. ACP-EU support may thus be channelled through such community-based avenues.

5. *HIV/AIDS a Threat to Agriculture and Food Security*

Of the 36.1 million people living with HIV/AIDS, an overwhelming 95% live in developing countries. And within those countries, AIDS is becoming a greater threat in rural areas than in cities. In absolute numbers, more people living with HIV reside in rural areas. The epidemic is spreading with alarming speed into the remotest villages, cutting food production and threatening the very life of rural communities.

Africa accounts for only one tenth of the world's population but nine out of ten new cases of HIV infection. Eighty three percent of all AIDS deaths are in Africa, where the disease has killed ten times more people than war. In nine countries in sub-Saharan Africa, more than 10% of the adult population is HIV positive. HIV/AIDS disproportionately affect economic sectors such as agriculture, transportation that have large numbers of migratory workers. People are dying before they can pass on knowledge and expertise to the next generation, thus undermining food security. A study in Kenya showed that only 7 percent of agricultural households headed by orphans had adequate knowledge of agricultural production.

In Kenya's Ministry of Agriculture, 58 percent of all staff deaths are caused by AIDS, and in Malawi's Ministry of Agriculture and Irrigation at least 16 percent of the staff are living with the disease. One study found that up to 50 percent of agricultural extension staff time was lost through HIV/AIDS in sub-Saharan Africa. In the first ten months of 1998, Zambia lost 1 300 teachers to AIDS -- the equivalent of around two thirds of all new teachers trained annually.

The sale of productive resources to care for the sick and pay for funeral diverts funds away from long-term development. Evidence from Namibia shows widespread sale and slaughter of livestock to support the sick and provide food for mourners at funerals. This jeopardizes the livestock industry and longer-term food security and survival options.

6. *Women and Agricultural Development*

“If the world and national leaders are to have any hope of feeding their growing populations over the next 30 years, they will need to take a hard look at national policies and make sure the economic contributions of rural women are factored in”, words of Dr. Jacques Diouf, Director-General of the UN Food and Agriculture Organization (FAO) in 1999.

According to FAO, between 2000 and 2030, global demand for food is expected to soar as total world population swells by 2.1 billion people. In much of the developing world, the task of producing the additional food will fall on women, who already produce 50 to 90 percent of domestic food crops in Asia, and between 80 and 90 percent in many sub-Saharan Africa countries, according to FAO data.

Given the important role of women as food producers, the obstacles they face result in considerable loss of productivity. For example, a survey of 750 rural households in Kenya found that men's gross value of output per hectare is 8% higher than women's. However, if women had the same human capital endowments and used the same volume and quality of factors of production and inputs as men, the value of output would increase by 22%. Similar results were found in Zambia, showing that if women had similar resources as men, output would increase by 15%. If these results in Kenya and Zambia were to hold for the whole region, simply raising women productivity to the level of the men would increase total production by 10-15%. Capturing this potential productivity gain would substantially increase food production in Africa, thereby reducing the regions food insecurity (Saito *et al*, 1994, cit. Blacken and Chitra, 1999).

7. *Child Labour*

The term child labour may have different meanings in different societies. Therefore it is useful to start by defining the term. The ILO Minimum Age Convention, 1973 (No. 138), states that ratifying Members shall raise progressively the minimum age for admission to employment or work to a level consistent with the fullest physical and mental development of young persons”.

The minimum age shall not be less than 15 years, although developing countries, whose economies, educational and administrative facilities are insufficiently developed, may initially permit children of 12-14 years of age to carry light work of certain types and under certain conditions.

The main concern thus, is not child labour work as such, but rather the concern is work, which is detrimental to a child physical and mental development and that in hazardous environments and work that is performed by very young children of less than 12 years.

The economics of child labour are well known. The supply of working children is found primarily among poor families in need of supplementary income provided by their children's labour. The burden of expenditures required to attend school as well as the loss of income provided to the family by children who are attending school combine to make education too costly for such families.

But children especially those working in commercial agriculture are exposed to long daily and weekly hours of physically strenuous work, to injuries caused by tools, to repeatedly shouldering heavy loads, to the hazard of insect bites and to the hazards linked to the handling of agrochemicals. Although all farms workers are exposed to all these hazards, the vulnerability of the children requires greater attention in the application of standards occupational health and safety regulations.

The economic benefits of child labour need to be weighed against the costs, especially for poor households who need to send their children to work. Such an analysis can form the basis of intervention in reducing child labour in the world and especially in Africa and Asia where 90% of the world's child labour is reported.

Conclusion

This paper briefly discusses the trends in agricultural performance in Sub-Saharan Africa. Though not exhaustive, the paper observes some issues affecting and having potential of affecting agriculture and rural development. This include trade liberalization, globalization and dependence on regional blocks, increasing pressure on natural resources and the environment, technology and infrastructural development and the changing role and function of the state and implication on food security, HIV/AIDS, child labour and increased access of productive resources to women.

Given the diminishing role of the government in supporting economic activities, the role of non-state actors has never been more important than it is today. It calls for empowerment of the private sector and civil society so as to enable them play their crucial role in poverty reduction.

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Table 1

Country	Annual average % growth, 1980-89 (Constant 1995 US\$)	Annual average % growth, 1990-99 (Constant 1995 US\$)
Uganda	1.5	3.6
Guinea Bussau	3.2	3.5
Central African repulic	1.5	3.3
Burundi	3.1	-1.6
Ethiopia	-0.4	2.4
Tanzania		3.2
Mali	2.2	2.4
Rwanda	0.8	-4.0
Sierra Leone	3.5	0.3
Cameron	2.7	4.5
Togo	5.5	4.1
Nigeria	2.2	2.9
Niger	1.7	3.2
Comoros	5.2	-0.3
Benin	4.5	5.0
Chad	2.7	4.5
Malawi	-3.3	6.4
Ghana	0.6	3.0
Gambia	0.8	1.5
Burkina faso	3.5	3.2
Mozambique	7.0	4.4
Madagascar	2.1	1.5
Kenya	3.2	1.2
Mauritania	1.2	4.4
Cote d'Ivoire	0.0	3.0
Guinea	3.1	4.3
Sao Tome	3.4	3.8
Senegal	1.8	1.5
Zambia	3.6	7.6
Eritria		
Equatorial Guines	0.1	6.0
Swaziland	2.1	-0.6
Namimbia	1.3	4.1
Cape Verde	5.3	3.7
Congo Rep	3.5	1.3
Mautitius	1.9	-0.2
Angola	0.5	-4.4
Seychelles	-2.5	-1.5
South Africa	2.6	0.2
Botswana	1.2	0.4
Gabon	2.5	-1.8
Lesotho	-0.5	1.4
Zimbabwe	2.8	4.2