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TOWARD BUILDING A FOUNDATION FOR FOOD SECURITY IN AFRICA
[A Background Paper to the Second Meeting of the
Panel of High-Level Personalities on African Development]

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EXECUTIVE SUMMARY

Improving national, sub-regional, regional and global food security is an issue of supreme importance to many millions of people who are worldwide suffering from persistent hunger and undernutrition, and to others who are at risk of doing so in the future, including the coming generations. Numerous food security proposals have emanated from Governments, international organizations, universities, etc., and the issue of food security is still widely debated and much of a confused matter.

During the past two decades or so, many African countries have made efforts to improve their food security situations, but with very insignificant results. The problem stems basically from the neglect of the agricultural sector as a whole, and in particular the failure to modernize the food sub-sector to levels commensurate with the demand needs of the majority of African population. Generally, statements and expressions of commitment relating to agriculture have not been translated into increased budgetary allocations and stronger political support. It has been estimated that -- in many countries -- for each unit of currency invested on agriculture for inputs and services, the sector is able to give to the economy eight to ten times more in terms of food, job, foreign exchange, and tax revenues. However, African countries on average allocate no more than 10 per cent of their national public budget for agriculture annually, compared to over 20 per cent in those developing regions of the world that have achieved rapid growth in agriculture and industrialization, such as Asia and Latin America.

Evidence indicate that both African institutions and farm producers have also not been able to adapt quickly enough in the face of very rapid population growth. This is because the National Agricultural Research Systems (NARS) in many African countries have not been able to generate sufficiently new technologies to fuel both crop and animal research. However, slow technological innovation because of ineffective agricultural research is only a part of the problem. Extension agencies have also not been effective in taking new technology to farmers because of deficiencies in the structure of extension systems and lack of cost-effective means of technology transfer, and the weak links with research institutions. On the other hand, the fact that the farming population in most African countries is "investment poor" and illiterate has meant that the food sub-sector has not benefitted significantly from various new farm innovations. Furthermore poor farmers have not been able to gain from the new incentive packages and the new opportunities that have been provided in the context of market liberalization.

Poor transport infrastructure in most African countries have meant that markets have been poorly and narrowly integrated, and this has, in turn, severely blunted farmers' incentives to switch from subsistence to market production and from extensive to intensive farming. Inappropriate agricultural marketing and pricing as well as exchange rate policies have reduced the profitability of market-oriented agriculture, prevented significant gains in agricultural productivity, and contributed to the persistence of rural poverty.

There is today an emerging consensus that the attainment of sustainable economic growth towards the achievement of food security, and the effective protection of the natural resource base should be among the most basic goals of a well-conceived, long-term national development programmes. To this end, several African countries have begun to implement various action plans. An increasing number of countries are today developing National Environmental Action Plans (NEAP). Macroeconomic and agricultural policy reforms are also underway in over a half of African countries, although with mixed success. A few countries have successful family planning programmes, and others are developing promising programmes. Agricultural research and extension systems are beginning to place more emphasis on "sustainable" technology and responsiveness to varying farmer demand. Few countries have managed to bring the above-mentioned together and managed to obtain positive synergies between agricultural growth, environmental protection, and reduction in fertility rates. Kenya, Uganda, Tanzania, Botswana, and Mauritius are examples. Others, such as Ghana and Zimbabwe, are moving in the right direction.

The strategies for achieving the recovery and growth of African agriculture, particularly in the food sub-sector will depend, among others, on the adoption and implementation of the following policy framework:

- increased investment in education, especially primary education, with more emphasis on increasing the enrolment of girls at school;
- the political and economic empowerment of smallholder farmers, particularly women farmers, since women are responsible for a very substantial share of food crop production and a variety of other agricultural activities;
- institutionally promote professional organizations to take over state activities, wherever appropriate, and facilitate broad-based participation, particularly regarding target groups such as small farmers and women in rural areas;

- embark on ambitious efforts to transform the rural environment in terms of increased investments in physical and social infrastructures with a view to making commercial food farming a profitable business;
- promote interaction between NARS and their clients, between farmers and policymakers; also, promote meaningful inter-disciplinarity in research and development efforts through broad-based intra-regional consortia; and
- pursue major goals of the Abuja Treaty by building institutions and infrastructure necessary for improving transport and communication with a view to increasing intra-regional exchanges.

In sum sustainable agricultural development require a clear assessment and implementation of a number of interventions. Time is not on the side of African people. This must therefore be done soon and conscientiously. The implementations of interventions must be led by national governments, using the ingenuity of a properly sensitized farming community. Inevitably, the implementation would also require considerable institutional, scientific and financial support from the donor community.

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I. INTRODUCTION

Food security has become a dominant theme in the current Africa's development debate. Suffice it to say that Africa's inability to feed itself amid vast amounts of unused land and record levels of foreign aid is, on the surface, one of the major paradoxes in her development programmes. Year in year out, most African heads of state point to unfavourable weather conditions and external factors in their appeal for food aid. In 1994 for instance, Sub-Saharan Africa (SSA) was the main recipient region of food aid, accounting for 36 per cent of global deliveries. This is a very significant amount indeed when compared to only 11 per cent for Latin America and the Caribbean, and only 8 per cent for North Africa and the Middle East [WFP (1995)]. Apparently, food production crisis in SSA stems from a seamless web of political, technical, and structural constraints which are a product of poorly conceived and implemented national and regional development programmes. The failure of most African states to adopt appropriate agricultural policies and operational strategies backed by political and budgetary commitments to deal with these technical, structural, institutional, and human resources constraints is at the heart of the present food crisis in the region [Staatz *et al.* (1990), Alexandratos (1995), Cleaver and Donovan (1995), and Ongaro (1995)].

Most SSA countries are in a state of abject poverty. Declining or even stagnating per capita agricultural production, declining agricultural export quotas, and a natural resource base subjected to excessive harvesting of trees and bushes for firewood, are fertile grounds for even directing more attention to the question of agricultural development [Reardon and Vosti (1995), and Marter and Gordon (1996)]. It goes without saying that the negative ramifications of a stagnating agriculture in terms of growing poverty, increased food insecurity and rapid natural resource degradation should be clear to the policy makers as should the benefits that arise from successful agricultural development like employment creation, foreign exchange earnings and rapid industrial growth.

African governments cannot afford a "business-as-usual" attitude. Sustainable development calls for a clear assessment of the constraints to agricultural growth, and the development and implementation of a number of interventions. This must be done soon and conscientiously. Time is not on the side of the African people. The implementation of the interventions must be led by the national governments, using the ingenuity of a properly

sensitized farming community. Inevitably, the implementation also requires, among other, considerable institutional and scientific support from the international community.

This paper serves three purposes: first, is to provide an overview of the extent and causes of food insecurity in Africa, but only in a summary form and in terms of the variables most directly relevant to the task of highlighting the nature and significance of the issues to be addressed in this paper; second, is to provide an assessment of the past national and international programmes of action; and third, is to recommend strategies and programmes of action that would enable agriculture to contribute to enhanced food production, economic development, and human welfare in SSA on an equitable, sustainable and environmentally sound footing.

II. THE EXTENT AND CAUSES OF FOOD INSECURITY IN AFRICA

A. The Nature and Magnitude of Food Insecurity

How big is the food availability problem in the African region? How has it evolved over time? How many people suffer from under-nutrition? These are some of the questions addressed in what follows. First, a portrait of food situation in the African region, particularly in SSA, reveals acute and chronic food insecurity which is more severe than in any other developing region. Food insecurity in the African region is growing due to a complex and interrelated set of political, social and economic factors. Over the 1990-95 period, agricultural production in Africa grew annually by an average of 1.5 per cent. This was a significant slowdown from the growth rates in 1985-89, which averaged 3.5 per cent annually. Total annual cereal production in Africa averaged 87.3 million tons in 1990-94, a 9.7 per cent increase over the 1985-89 average. Most of this increase, however, was accounted for by North African countries, with SSA's cereal production only 4.3 per cent higher in the 1990s. While agricultural production has kept pace with population growth in North Africa, per capita food production in SSA has actually fallen, the only major developing region to post such a decline. The Food and Agriculture Organization of the United Nations (FAO) index of per capita food production in SSA, which stood at 100 for 1979-81, had declined to 95.4 by 1990 and to a further 84.3 by 1994 [Cleaver and Schreiber (1994), and FAO/UN (1995)]. FAO further estimates that while per capita food cereals supplies for human consumption for all developing countries is around 170 kg/year, it is only 114 kg/year for SSA, compared to 213 for the Near East/North Africa, 201 for East Asia, 156 for South Asia, 129 for Latin America and the Caribbean, and 146 for all developing countries [Alexandratos (1995)].

TABLE 1

Estimates and Projections of the Incidence of Chronic Undernourished in the Developing Countries¹

Region	Year (3-year Average)	Total Population (million)	Undernourished ²	
			Persons (million)	% of total pop.
Africa, sub-Saharan	1969-71	268	96	36
	1979-81	357	140	39
	1990-92	500	204	41
	2010	874	302	35
Near East/ North Africa	1969-71	178	44	25
	1979-81	233	24	10
	1990-92	317	32	10
	2010	513	35	7
East Asia	1969-71	1,147	468	41
	1979-81	1,393	371	17
	1990-92	1,674	262	16
	2010	2,070	105	5
South Asia	1969-71	711	233	33
	1979-81	892	297	33
	1990-92	1,146	250	22
	2010	1,617	239	15
Latin America and Caribbean	1969-71	279	51	18
	1979-81	354	46	13
	1990-92	443	61	14
	2010	593	49	8
Total	1969-71	2,583	893	35
	1979-81	3,228	878	27
	1990-92	4,064	809	20
	2010	5,668	730	13

Note: ¹ FAO study "World Agriculture: Towards 2010", accounting for 98.5 per cent of the total population of the developing countries.

² The estimates and projections are somewhat different from those reported in the International Conference on Nutrition (ICH) document (December 1992) and AT2010 due to: (a) revision of the data on per capita food supplies; (b) the total populations (mainly the projections) are different; they are from the 1992 UN assessment, the earlier ones were from the 1990 UN assessment, and (c) in the preparation of the 6th World Food Survey (WFS), cut-off point (minimum calorie requirements) for each country varies over time to take into account changes in age/sex consumption of the population (in the earlier estimates it was the same for all years).

Source: Alexandratos (1995).

In 1996, it was estimated that some 217 million people in Africa were chronically undernourished, the vast bulk of them in 17 low-income food-deficit countries. Based on the current food production and population growth trends, the number of undernourished Africans is projected to rise to some 300 million by the year 2010 [Alexandratos (1995)].

The population currently is increasing by 3.1 per cent annually, the most rapid rate of growth of any region in the world. In the 1980s, population expansion coupled with slow growth of GDP (1% a year) resulted in a decrease in per capita GDP of 2.2 per cent per year. The World Bank estimates that African, particularly the SSA economies, must expand by between 4 to 5 per cent annually to "achieve food security, provide jobs, and register a modest improvement in living standards" [World Bank (1989)]. With population growing at 2.75 per cent per year, a 4 to 5 per cent economic growth implies significant increases in per capita income. Since agriculture is such a large component of the GDP of most countries in Africa, it will be greatly affected by the state of the economies, and, at the same time, a major determinant of the economic welfare of the countries of the region.

It has been argued that the unstable social and political environments that have stunted economic growth in the region lie at the heart of inadequate food production. A number of factors have converged to create this instability: poor economic policies have limited possibilities for intensification and diversification of agriculture, and hence economic growth [Delgado (1995)]; a high rate of population growth and a lack of development of human resources have further stressed the natural resource base; the numerous wars and civil conflicts have disrupted farming and caused huge refugee movements. Average cereal yield levels (of maize, sorghum, millet and rice which constitute the main staple food crops) have reportedly decreased while the limits for expansion of the cultivable area have almost been reached (only marginal land and forested areas remain) [Cleaver and Schreiber (1994), and World Bank (1996)].

Worse still is the fact that this decrease in yields is as a result of gradual soil degradation: soil degradation poses a direct threat to the livelihood of the farming population. As farmers' yields decrease, are expansion is the only means available to them to increase absolute amounts of food produced. Marginal lands are thus brought into cultivation. Deforestation, uncontrolled erosion, loss of bio-diversity (trees, bushes, etc.) and overstocking continue to destroy an already fragile ecosystem while investments to maintain the productive capacity of the soil, i.e., its nutrient stocks, is either insufficient or nonexistent. The net result is that more and more of the rural population is being drawn into the heart of the poverty spiral. While these are just a few of the most immediately apparent

factors that have eroded food security in the African region, we hope that subsequent discussions will further our understanding of the region's problems.

B. The Underlying Causes of Food Insecurity

(i) Technical Constraints:

- Availability and Cost of Agricultural Inputs

One of the dominant causes of food insecurity in Africa is the fact that 60-80 per cent of the agricultural labour force is producing staple foods at very low levels of productivity. While food grain yield in Asia and Latin America have increased since the mid-1960s, those of Africa have remained more or less stagnant [Alexandratos (1995:439-462)]. For the period 1993-95, for instance, cereal yields in SSA were only about 41 per cent of those in Asia and 44 per cent of those in Latin America. In spite of the efforts to modernize the food sub-sector by promoting the use of modern inputs such as seed and fertilizer, in SSA their use is still very low. Available evidence indicate that currently in SSA only 9 to 11 kilogrammes of fertilizers are used per hectare and a mere 4 to 6 per cent of cropped area is irrigated. With North Africa included, the continental average is only 21kg/ha, compared with 67kg/ha in Latin America and 129kg/ha in Asia. The most important problem faced by the African farmer is the availability of financing, and access to seed, fertilizer and technology at reasonable costs.

Although there are success stories of new crop varieties namely, rice in a few parts of West Africa, hybrid maize in parts of Ghana, Kenya, Nigeria, Zambia, and Zimbabwe, and more recently, cassava varieties in West Africa, agricultural research in most parts of SSA has, on the whole, not performed well. There is strong evidence that African farming systems are extremely complex and development of suitable technological packages require location-specific research by multi-disciplinary research teams supported by strong national or sub-regional research programmes on the staple foods of each country or sub-region respectively.

Many of the technological constraints confronting crop and animal agriculture in Africa are related to geographic and climatologic conditions represented by agro-ecological zones. The demand for resources to support all kinds of services and projects exceed the ability of most countries to fund them. Considering this reality, it would make good sense for countries with common agro-ecological and other features to co-operate in funding and conducting research rather than trying to provide for all of their needs themselves. This would

reduce ~~the reduce~~ the cost and increase the availability of various technologies which are badly lacking due to inadequate coordination among the National Agricultural Research Systems (NARS) in the continent. There is also abundant evidence that the Universities faculties of agriculture, NGOs and the private sector have not been adequately drawn into research efforts with a view to pulling together resources to achieve the same goal of reducing research costs.

(ii) Institutional Constraints:

Government and traditional institutions have been slow to adapt to rapidly changing economic and social conditions as population density increases and financial resources diminish. Considerations of a growing population with limited land resources require changes in land tenure to eliminate any disparities in land holdings which are found in the rural areas.

- Land Policy and Tenurial Arrangements

Shifting cultivation and transhumant pastoralism were appropriate under conditions of slow population growth, abundant land, limited capital and limited technical know-how. Hence the ecological and economic systems were in equilibrium. People moved to a different location when soil fertility declined or forage was depleted. This enabled the fertility of land to be reconstituted through natural vegetative growth and decay. In most countries of Africa, the scope for further expansion of crop land has drastically narrowed in recent years. The traditional land use system, which once was capable of balancing crop farming, grazing and livestock numbers is breaking down because of population pressure on arable land. It follows from the above that arable land/person ratios are threatening the food welfare of those land-scarce countries which depend on agriculture in a major way for a living. Land tenure and titling issues are likely to become more vexing in the future, as shifting cultivation gives way to settled agriculture, and population pressure on land increase.

- Lack of Cost-Effective Extension Systems for Technology Transfer

Successful development of extension, education and other supportive services depends upon improving human capital and establishing the conditions under which knowledge can be used. In SSA, all these functions are hampered by weak national institutional structures. Although progress in reforming agricultural extension has been observed in countries such as Burkina Faso, Kenya, and Nigeria, agricultural extension in most countries in the region has had mixed results [Cleaver and Donovan (1995)]. Specific groups such as smallholders and women have not received adequate attention from extension. Extension agents have been

more responsive to government bureaucracies than to the needs of farmers. Ties between extension services and research institutions that generate new agricultural technology are weak, thus the two-way communication needed between research workers and farmers is poorly developed in most countries.

- Lack of Empowerment of Producer Organizations in Decision-making

Farmers being the main actors of agricultural production should play an active role in influencing policies. However, in many African countries, farmers have very little influence, if any, over policy, research and extension. This is because most countries rely on "top-down" approach rather than on a "bottom-up" approach which should fully integrate farmers' needs, concerns and proposals. In a similar vein, considerable attention has not been given to gender issues and the role of women. As farmers, women are responsible for a very substantial share of food crop production and a variety of other agricultural activities, and their decisions and activities have direct bearing on soil fertility and erosion.

- Inappropriate Credit and Input Policies

Availability of credit and access to it by producers is an essential part of the producer incentive structure. While credit has played an important role in developing export crops in a number of African countries, its contribution to increasing food production has been rather insignificant, and, in any event, has varied from country to country due to different institutions involved and policies pursued.

In most cases, available credit resources have primarily used to promote the export sector at the expense of food sector. Credit programmes implemented by credit institutions existing in most African countries have witnessed different degrees of success. Throughout SSA these programmes have been plagued by poor loan recovery and have proven extremely expensive to operate. In this regard, Commercial banks have not shown much interest in lending to small farmers because the risk of default is high, because transaction costs are high and because acceptable collateral can rarely be provided, especially where land holdings are unregistered. As a consequence, throughout most SSA countries, smallholders have had virtually no direct access to formal credit from formal private sector financial intermediaries.

The inadequate financing has therefore forced many food producers, particularly smallholders, to either reduce areas under cultivation or to skip some of the recommended agricultural practices with consequent reduction in total food output and hence food availability.

(iii) Policy Constraints:

- Inappropriate Domestic Price and Exchange Rate Policies

In a number of African countries, the dependence on imported cereals -- mainly rice and wheat -- to feed urban populations has been encouraged by inappropriate domestic price and exchange rate policies that have made imported food relatively cheap. Imported rice and wheat have substituted for traditional food grains such as millet, sorghum as well as plantains, roots and tubers. As urban dwellers are becoming more "addicted" to the imported food, their taste are changing and their demand for these food items is increasing, thus displacing traditional coarse grains in total cereal consumption, and aggravating the balance of payments problems.

Evidence indicate that the Sahelians are today eating more and more rice that they do not produce; more and more wheat that they do not produce, but not sufficient to meet their increasing consumption demand; and they are eating less and less millet, sorghum and maize that they all produce in various quantities. In Senegal, for instance, rice is relatively a minor crop, but socially a politically sensitive food item. Its imports account for a substantial amount of total rice consumption. In most net food importing countries of Africa, the policy issue regarding the extent to which domestic prices should be geared to encourage domestic food production has not been properly addressed, and this has contributed to disincentive for production and consumption of local crops.

- Underdeveloped Data Base

Africa has a weak and uneven data-base, and there is a need to interpret statistics with caution. For instance, accurate data on acreage under cultivation and yield are available for only a handful of countries. Estimates of land under irrigation vary from 1 to 5 per cent. Data on rural income distribution are available for only a few countries. The agricultural statistics agents in most countries rely heavily on guess estimates from the extension agents. The underdeveloped data base has therefore made it difficult for policymakers to formulate sound strategies with a view to arresting the problem of food insecurity in the region.

- Barriers to Internal and Intra-regional Trade

There seem to be ample evidence that a significant potential for intra-regional trade exist. One may wonder why countries have not been able to take advantage of this potential. Weak market integration due to both the parlous state of rural infrastructure and domestic and international trade restrictions have affected the ability of food surplus countries and regions to export to food deficit countries and regions. Public infrastructure -- an important condition for both food availability and access -- remains limited in most countries of Africa. Where rural roads exist, they often are poorly maintained. As a result, markets have been poorly integrated, inter-regional and inter-seasonal price variations have been far greater than they would have been with transport facilities, resulting to disincentives to switch from subsistence to market production.

III. ASSESSMENT OF SOME OF THE PROGRAMMES OF ACTION

A. Pricing and Marketing Incentives

Although pricing policy has played, and continues to play a key role in stimulating agricultural production, farmers require solid support in terms of incentives to motivate them to invest their resources in farming. Major incentives include not only remunerative prices but also the availability of reasonably priced inputs, effective research and extension services, and availability of affordable credit.

A good number of African countries have made significant progress in removing major constraints to the development of agricultural sector. Deregulation of wholesale and retail prices of agricultural products, particularly cereals and fertilizers, and withdrawal from direct involvement in agricultural marketing and the provision of agricultural inputs have been realized.

Several countries have also moved to consolidate more numerous agricultural extension projects created by donors into more efficient and lower-cost national agricultural extension systems. Successful stories have been registered in Kenya and Burkina Faso whereby the Teaching and Visits (T&V) extension systems -- built-in mechanisms for linking researchers and extension agents -- have shown extremely high economic rates of return. Progress in reforming agricultural extension has also been made in countries such as Benin, Cote d'Ivoire, Ghana, Guinea, Malawi, Mali Niger, Nigeria, Tanzania, Togo, Uganda, and Zambia. In addition, some of these extension systems have made special efforts to recruit

women extension agents. In Kenya, for instance, the Government is in the process of translating extension messages into vernacular languages since many rural women may not know Kiswahili or English.

B. Reducing Population Growth Rate

Governments are increasingly aware of the rapid population growth and its effect on environmental degradation, and slow agricultural growth. In 1974, only four countries -- Botswana, Ghana, Kenya, and Mauritius had adopted policies to reduce population growth. By 1987, fourteen countries had adopted explicit national population policies and a number of others have done so since then. To date, at least African 38 countries have adopted or are formulating an official National Population policy. 30 countries have incorporated population factor into their "full" development plans or structural adjustment programmes. In about 10 African countries, observers already foresee the beginning of "demographic transition".

With respect to reproductive health, almost all African countries are integrating family planning counselling and services as well as safe motherhood initiatives into their public health programmes. In line with the International Conference on Population and Development (ICPD) held in Cairo, in September 1994, Governments are also taking steps to expand services to include other aspects of reproductive health, including prevention of HIV/AIDS.

C. Gender Dimensions of Development

The contribution of women to Economic development in African countries has not been emphatically pronounced. It is however very clear that there is increased participation of women in the various sectors of the economy. Information now available indicate that women are the primary players in agricultural and informal sectors despite their continued disadvantaged status.

The situation has been changing as women have agitated for greater empowerment in various fora and organizations such as the World Summit for Social Development held in Copenhagen in March 1995 and the Fourth World Conference on Women held in Beijing in September 1995. At the Beijing Conference some 20 African Governments announced very concrete commitments to improve the status of women in different areas. Some of the commitments are to improve women's economic situations and facilitate their access to credit, improve women's literacy and health conditions and devise ways and means of alleviating the

problems of rural women. For instance, Burkina Faso, Kenya Nigeria, and Uganda have been implementing some of their commitments by promoting women's groups and increasing their participation in designing and implementing investment activities, in rural areas

D. Infrastructure Development

The importance of improved infrastructure cannot be overstated. Rural infrastructure, including roads, water supply, electricity, telecommunications are very important for the development of agriculture, for fostering reliable markets and agro-processing, and especially for realizing the full potential of the growth linkages of agriculture to the entire rural sector.

At the regional level, inter-connection of infrastructures is a necessary condition for integration of national markets and industries to facilitate increased intra-African trade. In fact, the realization of the *Abuja Treaty* establishing the *African Economic Community* depends, to a large extent, on the development of an integrated and efficiently operated infrastructure system. Some progress have been observed.

In East Africa, for instance, over the past three years or so, Kenya Uganda and Tanzania resumed active discussions towards reviving the East African cooperation (EAC) in trade, transport and communication, and investment. In March 1996, the Secretariat of the EAC was officially inaugurate in Arusha, Tanzania, and the process of the adoption and harmonization of various cooperation and integration policies is under way.

Also, in Eastern and Southern Africa, the implementation of the programmes for transport and cooperation include the consistent road use charge system approved in April 1, 1995. Licensing procedures for heavy vehicles and the Common Market for Easter and Southern Africa (COMESA) third party motor vehicle insurance schemes have also been established. While this is the case, a lot more remain to be done in order to improve transport and communication sectors in Africa.

IV. REALIZING THE POTENTIAL AND PRE-REQUISITE CONDITIONS FOR ENSURING REGIONAL FOOD SECURITY

In theory, Africa has the resource base to achieve collective food security. As it has been indicated earlier on, Africa's food self-sufficiency not only fell as since the 1970s but also, the capacity of most countries to import food eroded concurrently. During the past twenty five years, laudable efforts and significant resources have been deployed, at national and international levels, to tackle many of the production constraints. However, although some advances have been registered in some countries, hunger and malnutrition have persisted among of millions of Africans. FAO estimates indicate that Africa's food imports increased from 1.2 million tonnes in 1961 to 18.2 million in 1990 and to 22.5 million tonnes in 1994. As a result, one in every five Africans are today food-aid dependent. Drawing from lessons of past experiences, it is now widely accepted that technological approach alone does not suffice to dramatically improve the situation and that equal importance should be accorded to social, political and environment constraints. The new insights favour the concept of sustainability which call for a holistic approach to the food insecurity issue.

1. Policy framework for promoting sustainable food security

- Establishing a Peaceful Socio-political Environment

Food insecurity and mass hunger in several part of Africa relate to the problem of civil strife. As the core underlying cause of the widespread social unrest is poor governance and the difficult transition to democratic ruling systems, a condition for popular participation and the attainment of national consensus on vital issues. The single most important determinant for improving food security, be it through increased production or raising incomes is social peace. This is because evidence indicate that each of the greatest food crisis of recent years -- Ethiopia in 1984-85, Somalia in 1992, Sudan since 1987 and Rwanda in 1994 -- has been generated by conflicts. It goes without saying that for African countries to establish social peace, the following policy measures must be given priority consideration:

- the provision by government of appropriate public services including law, order and security that are the most conducive to the respect of basic human rights;
- the opening up of opportunities for employment for the poorest groups, especially in facilitating informal sector activities; and
- ensuring that social services are evenly distributed among various ethnic groups.

Many a time, the concept of economic stability has overlooked as the rulers of the day tend to reverse events, including the most relevant policy measures enacted by their predecessors. Sustainable development, in general, and sustained improvement of food security, in particular, is a long-term process that goes beyond a single ruling term. It is a gradual process that is built on value-added in various aspects and fine-tuning operated on the basis of efficient sequencing and assessment of progress. Therefore, stability must not be regarded as the perennality of the rulers of today but rather as the sustained determination of Governments and the people to adhere to the best practices needed for the achievement of widely accepted objectives.

- Putting Emphasis on Anti-poverty Measures

Past experiences have shown that instead of land intensification, the expansion of cultivated land in Africa has led to pressures on land and soil degradation. Successful stories in improved food security, both in Africa and in other developing regions have been based on increased intensity in production and efficient anti-poverty measures.

World Food Summit of 1966 stated that chronic hunger is primarily due to poverty. The striking example can be found in Sub-Saharan Africa where the food insecurity grew at the same pace with poverty. In this regard, Africa's failure to feed itself can be associated with the high incidence of poverty. In spite of the rapid advances of the international agricultural research which helped other regions to achieve their "Green Revolution", Africa's agricultural productivity has remained very low. The main reason being that its farming population largely consists of "investment poor" households who can neither afford to acquire the necessary inputs nor make the required investment to maximize incentive packages.

In this connection, food security should be treated in a holistic manner, within national and international strategies to eradicate poverty. While the mix of anti-poverty policy measures are country specific, successful cases have addressed the issues through appropriate macro-economic policies including the restructuring of public finance, to redirect limited resources to growth-led sectors and emphasize on efficiency and equity; specific sectoral policies in support of the intensification of agriculture and food production such as soil conservation, water harvesting, the provision of high-yielding varieties; and a set of targeted measures such as income generating and transfer, the provision of low-cost staples, feeding programmes and food for work schemes.

- Understanding the Triad Between Rapid Population growth, Increased Poverty, and Food Insecurity, in Africa

The total population of Sub-Saharan Africa increased from 384 million in 1985, to 511 million in 1990 and up to over 600 million in 1995, adding over 23 million people per year. Concomitantly, the number of people living in poverty in Sub-Saharan Africa is estimated to have increased from 184 million in 1985 to 216 million in 1990, and to reach 300 million by the year 2000. Therefore, while poverty is a complex and multidimensional problem and several factors justify that Africa is the only region where poverty is likely to continue increasing, the fact that the region has the fastest rate of population growth is the most determinant factor as it surpassed the slowly evolving traditional farming and hastened the degradation of the resource base. In an attempt to highlight the vicious circle that uncontrolled population growth could bring about in predominantly agrarian countries, a number of researchers have established the population-agriculture and environment nexus or the intricate links between these elements.

A better understanding of the new concept of the nexus would raise consciousness of African decision makers and other development actors and provide guidelines for the formulation of appropriate policies. The obvious implications for Africa is that of arresting the problem of high population growth rates which is a critical requisite for reducing poverty, improving food security and giving a chance to future generations. Besides the need for radical measures aimed at bringing Africa in its demographic transition, other policy measures such as removing gender bias in development strategies and universal, deserve priority consideration.

- Realizing Women's Potential

In rural Africa, especially in Sub-Saharan Africa, women contribute the most significantly to household food security. Besides, their direct involvement in cultivation and food processing, they tend to spend proportionately a larger part of their non-food incomes, than men, to feed the family and especially children. Therefore, in view of the observed increasing "feminization" of poverty in Africa, there is an urgent need to redress gender imbalances which, either by law or traditional customs, constrain the access of women to productive resources as well as social services. A practical way of improving household food security among the poor groups would be to open up opportunities for off-farms activities, especially among women.

- The Critical Role of Education

Lessons from Latin America and Asia indicate the critical role of education in alleviating poverty and improving food security. This has also been spelt out in the World Social Summit (1995) and the World Food Summit (1996). In particular, basic education is a priority cluster of the United Nations System-wide Special Initiative for Africa, launched in March 1996. The potential of extended education if not universal for accelerating social and economic development justifies the growing importance accorded to the issue at the national and international levels. As regards poverty alleviation and improved food security, more education increases not only a key ingredient for significantly increasing productivity but also raises awareness on environment issues, the link between family size and the well-being of its members. A World Bank study of 1989 confirms that a farmer with a minimum of four years of primary education is likely to increase farm productivity by an average of 8.7 per cent.

The multiplier effect of extended education that can bring about by a significant increase in girls enrolment is even much higher. Therefore, in spite of the priority accorded to the education sector by African Governments, in terms of allocation of public resources, more efficiency could be introduced for the majority of countries to attain universal primary education. This goal could be achieved if more emphasis were put on primary education, if enrolment quota for girls were established, and if incentives for the involvement of the private sector were provided.

- Establishing Safety-net for the Vulnerable Groups

Poverty eradication is a long term process and most food insecure individuals or groups of individuals require special assistance. In fact, food assistance has essentially been provided both in developed and in developing countries. In the case of Africa where poverty has been rapidly increasing in the midst of scarce domestic resources to support schemes, food-aid has been widely institutionalized, especially in low-income poor food-deficit countries. Evidence indicate the deleterious effects of massive food-aid on local production and dependence upon assistance, and that food-aid has been on the increase in most African countries.

What is called for is to use food-aid in schemes in a well integrated longer-term poverty eradication strategies. In this context, it is essential that the groups with critical needs are well identified and the delivery mechanism is efficient enough to ensure an adequate targeting.

2. Transforming the Rural Economic Environment

- Increasing Investments in Rural Infrastructures

In most African countries, subsistence farming continues to contribute to the bulk of aggregated agricultural output. This dominant characteristic constitutes a constraint to intensification and is the reason behind agricultural impoverishment. Past efforts in the delivery of extension services and other incentive packages have produced limited results. A compounding problem is the fact that the larger part of the farming community live in rural areas where physical and social infrastructures remain grossly inadequate. As a matter of fact, the density of rural roads in Africa is estimated at 34 miles per square kilometres, as compared to 500 in India. This under-equipment represents a major constraint to agricultural development, the management of the food chain markets and inadequate off-farm job opportunities. Another important impediment to increasing productivity is the inadequate skill of most African farmers ~~farmer~~ to manage water resources.

The implications of these constraints in Africa necessitates a profound transformation of the food and agricultural sector from mere subsistence to commercial farming, a token step for transforming the rural areas and arresting the annual recession of 6 million hectares of forest and the progression of the desert which is today taking place at an alarming rate.

- Developing and Managing a Critical Resource: Water

The extreme variability of food output, resulting from the predominance of rain-fed agriculture is a major cause of food insecurity in large parts of Africa. Water resources development in Africa is weaker than in any other region in the world. Africa cannot afford to continue expanding cultivation to marginal areas and/or massively destroying forest and woodlands. It has to intensify food and agricultural production through improved water management practices -- an essential step for realizing green revolution. For those countries which are not in a financial to invest in the construction of large water reservoirs or piped irrigation, it would be advisable for them to take advantage of harvesting rain water through various labour intensive methods.

- Promoting the Emergence of a Commercial Farming Sub-sector

In implementing macro and sectoral economic reforms, African countries adopted a set of measures aimed at liberalization economic activities and promoting the development of the private sector. In the majority of African countries, farming constitutes a larger share of private sector enterprise. The agricultural sector would have been the prime beneficiary of liberalization measures if the bulk of operators were not the rural poor who are mainly more concerned about survival and unable to respond to the new opportunities.

The success stories in North Africa have been as the results of Governments' efforts in developing the required supporting infrastructures and establishing standards for financing, marketing locally or exporting. The established enabling environment in North African countries has been conducive to the promotion of commercial farming and the attraction of significant flows of domestic and foreign private investments. On the contrary, in most of countries in Sub-Saharan Africa, with the exception of the export crop sector, unfavourable government policies have made food crop farming a less attractive business.

The missing link has been the lack of involvement in agriculture by knowledgeable businessmen who could invest in the acquisition of technologies and establish basic infrastructures, make available the required inputs and services for farmers. A new generation of commercial farmers would give more meaning to liberalization and globalization. For this to be realized, Governments need to be unbiased against agriculture with a view to making farming a profitable business. African Governments and their international partners in development, deploy more ambitious efforts in the development of basic rural infrastructures. The promotion of commercial farming also calls for a departure from traditional practices in terms of ownership of land, water, forest and water. Such radical changes would also provide benefit to the subsistence sector and facilitate up-grading some of the traditional practices. The expansion of a commercial farming sector would also contribute to skill development in the construction and maintenance of local infrastructures as well as maximizing the returns of investments in research and technology acquisitions.

3. Invigorating the regional food market

The Abuja Treaty establishing the African Economic Community (AEC) has established, *inter-alia*, the objectives of regional market integration through the removal of trade barriers, the establishment of currency convertibility and payment settlement systems, and the development of physical infrastructure to link African countries. At the sub-regional

level, economic cooperation arrangements have been also made with the primary objective of facilitating inter-country trade. While the officially intra-African trade has evolved little during the past 20 years, unofficial cross-boarder trade, a significant part of which being constituted of foodstuffs, is flourishing. Many a time, middlemen have responded to signals on deficits or surpluses recorded in neighbouring countries and, in some cases, have even succeeded to organize markets for cereals and livestock. What is required to support the integration process are mechanisms that, in practice, make cross-border investments easier and involve the private sector in the building of the required inter-country communication links. With regard to the promotion of a regional food market, besides cross-boarder investments facilitation, the expansion of the commercial food sector in various countries would be a requisite condition.

V. CONCLUSIONS

From the above discussions, one can see that while most Africans are farmers and Africa has enormous resource potential to feed itself, there are substantial barriers to tapping this potential. Solutions to the interlinked food and poverty problems must, first of all, be long-term. Second, they require a re-direction in thinking about agriculture's role in development at this stage of Africa's economic history and about the need for a reliable food surplus as a pre-condition for national development. Agricultural development is a slow and evolutionary process, and it is up to African states and donor agencies to jettison viable programmes and approaches and begin to lay foundations for long-term investments to solve the food production and poverty problems so as to avoid compromising the future of the region.

These would involve, among others, effective ownership of the national strategies by African states which should imply full participation of key stakeholders in the formulation and implementation of programmes; the political and economic empowerment of smallholder farmers, including in particular women farmers, as key stakeholders in the policy decision making process and in the implementation of agricultural development strategies; and implementation of conservation programmes and measures addressing serious land and water degradation problems and unchecked deforestation. Unless sound steps are taken to overcome these basic technical, political, structural, and policy constraints on food production, many African states may end up by the turn of the century as permanent food-aid clients and net food importers from the outside world.

While efforts in economic reforms should be pursued with determination, such reforms need to be accompanied by selective anti-poverty measures so that satisfactory achievements in redressing macro-economic imbalances manages to bring about an improvement in the well being of the majority of the population as well.

References:

- Adelman, Irma. and Peter Berck. (1990): 'Food Security Policy in a Stochastic World'. *Journal of Development Economics*. Vol.34. No.1&2. (November). pp.25-55.
- Alexandratos, Nikos. (1995) (ed.): *World Agriculture: Towards 2010. An FAO Study*. FAO and John Wiley & Sons. New York and Singarope.
- Cleaver, Kevin M., and Götz A., Schreiber. (1994): *Reversing the Spiral: The Population, Agriculture, and Environment Nexus in Sub-Saharan Africa*. Washington, D.C.: The World Bank.
- Cleaver, Kevin M., and W. Graeme Donovan. (1995): *Agriculture, Poverty, and Policy Reform in Sub-Saharan Africa*. World Bank Discussion Paper No.280. World Bank.
- Delgado, Christopher L. (1995): 'Agricultural Diversification and Export Promotion in Sub-Saharan Africa'. *Food Policy*. Vol.20. No.3. pp.225-243.
- FAO/UN (1994): *Structural Adjustment and the Provision of Agricultural Services in Sub-Saharan Africa*. Rome, Italy.
- FAO/UN. (1995): *Production Yearbook*. Rome, Italy.
- FAO/UN (1996): *Synthesis of the Technical Background Documents of the World Food Summit*. Rome, Italy.
- Marter, A., and A. Gordon. (1996): 'Emerging Issues Confronting the Renewable Natural Resources Sector in Sub-Saharan Africa'. *Food Policy*. Vol.21. No.2. pp.229-241.
- Ongaro, Wilfred A. (1995): *Food Production and Consumption in the Context of Border Trading: An Application to Eastern and Southern Africa*. (Research Monograph No.12). Joint ECA/FAO Agriculture Division. Addis Ababa, Ethiopia. (May).
- Reardon Thomas., and Stephen A. Vosti. (1996): 'Links Between Rural Poverty and the Environment in Developing Countries: Asset Categories and Investment Poverty'. *World Development*. Vol.23. No.9. (September). pp.1495-1506.
- Statz, John M., Victorie C. D'Agostino, and Shelly Sundberg. (1990): 'Measuring Food Security in Africa: Conceptual, Empirical, and Policy Issues'. *American Journal of Agricultural Economics*. Vol. 72. No.5. (December). pp. 1311-1317.
- Teklu, T. (1996): 'Food Demand Studies in Sub-Saharan Africa: A Survey of Empirical Evidence'. *Food Policy*. Vol.21. No.6. pp.497-508.
- WFP (1995): 'The Food Aid Monitor: 1994 Food Aid Flows'. World Food Programme (WFP). International Food Aid Information Systems. Rome.

- Winrock International. (1992): *Assessment of Animal Agriculture in Sub-Saharan Africa.* Morrilton, Arkansas: Winrock International.
- World Bank. (1989): *Sub-Saharan Africa: From Crisis to Sustainable Growth. a Long-Term Perspective Study.* Washington, D.C.
- World Bank. (1996): *A Continent in Transition - Sub-Saharan Africa in the Mid 1990s.* Washington D.C.
- World Bank (1995a): 'Advancing Social Development: A World Bank Contribution to the Social Summit'.
- World Bank. (1995): *World Tables 1995.* The Johns Hopkins University Press. Baltimore and London.
- World Bank. (1996): *African Development Indicators 1996.* Washington, D.C.