

# Achieving Food Security in Africa: Challenges and Issues

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## Introduction

Achieving food security in its totality continues to be a challenge not only for the developing nations, but also for the developed world. The difference lies in the magnitude of the problem in terms of its severity and proportion of the population affected. In developed nations the problem is alleviated by providing targeted food security interventions, including food aid in the form of direct food relief, food stamps, or indirectly through subsidized food production. These efforts have significantly reduced food insecurity in these regions. Similar approaches are employed in developing countries but with less success. The discrepancy in the results may be due to insufficient resource base, shorter duration of intervention, or different systems most of which are inherently heterogeneous among other factors. Food security; a situation in which all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active healthy life<sup>1</sup>; is affected by a complexity of factors. These include unstable social and political environments that preclude sustainable economic growth, war and civil strife, macroeconomic imbalances in trade, natural resource constraints, poor human resource base, gender inequality, inadequate education, poor health, natural disasters, such as floods and locust infestation, and the absence of good governance. All these factors contribute to either insufficient national food availability or insufficient access to food by households and individuals.

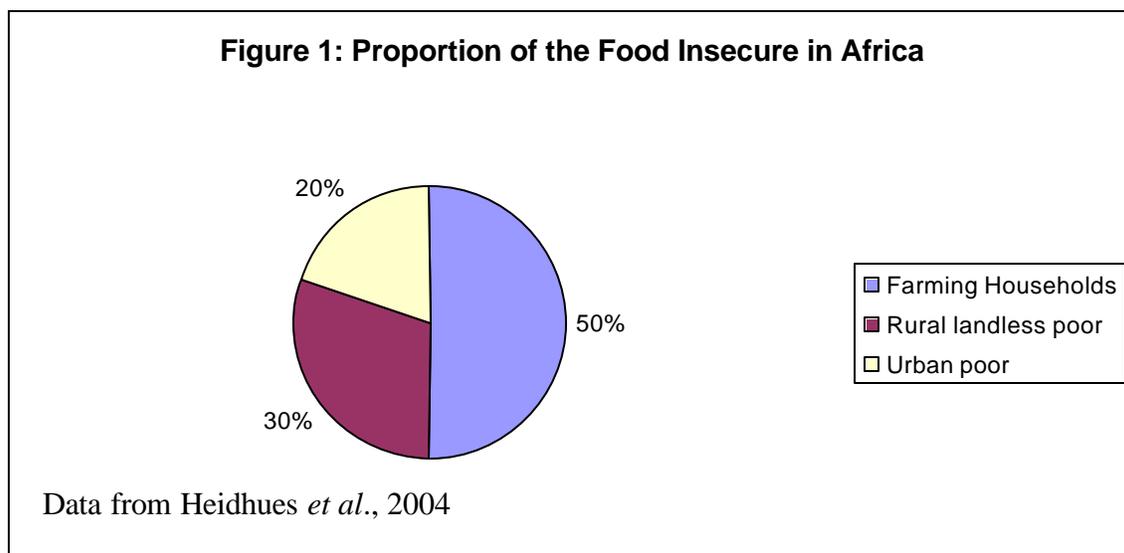
The root cause of food insecurity in developing countries is the inability of people to gain access to food due to poverty<sup>2</sup>. While the rest of the world has made significant progress towards poverty alleviation, Africa, in particular Sub-Saharan Africa, continues to lag behind. Projections show that there will be an increase in this tendency unless preventive measures are taken. Many factors have contributed to this tendency including the high prevalence of HIV/AIDS; civil war, strife and poor governance; frequent drought and famine; and agricultural dependency on the climate and environment. Food security on the continent has worsened since 1970 and the proportion of the malnourished population has remained within the 33 to 35 percent range in Sub-Saharan Africa<sup>3</sup>. The prevalence of malnutrition within the continent varies by region. It is lowest in Northern Africa (4 percent) and highest in Central Africa (40 percent).

Over seventy percent of the food insecure population in Africa lives in the rural areas. Figure 1 shows the distribution of food insecurity in Africa. Ironically, smallholder farmers, the producers of over 90 percent of the continent's food supply, make up the majority (50 percent) of this population. The rest of the food insecure population consists of the landless poor in rural areas (30 percent) and the urban poor. Throughout the developing world, agriculture accounts for around 9 percent of the GDP and more than half of total employment. In countries where more than 34 percent of the population is

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undernourished, agriculture represents 30 percent of GDP and nearly 70 percent of the population relies on agriculture for their livelihood<sup>4</sup>. This fact has in the past been used in support of the argument as to why developing countries should move away from agriculture and invest in technology. Because over 70 percent of the poor live in rural areas, where also the largest proportion of the food insecure live, it is evident that we cannot significantly and sustainably reduce food insecurity without transforming the living conditions in these areas. The key lies in increasing the agricultural profitability of smallholder farmers and creating rural off-farm employment opportunities. The objective of this paper is to highlight the challenges to food security in Africa while providing alternative solutions to the problem that would not only allow for poverty alleviation but also wealth creation. While the focus of this paper is in alleviating food insecurity in the rural areas, effort has been made to address the plight of the urban poor.



Food security has three aspects; food availability, food access and food adequacy<sup>5</sup>. Food availability has to do with the supply of food. This should be sufficient in quantity and quality and also provide variety. Food access addresses the demand for the food. It is influenced by economic factors, physical infrastructure and consumer preferences. Hence food availability, though elemental in ensuring food security, does not guarantee it. For households and individuals within them to be food secure, food at their access must be adequate not only in quantity but also in quality. It should ensure an adequate consistent and dependable supply of energy and nutrients through sources that are affordable and socio-culturally acceptable to them at all times. Ultimately food security should translate to an active healthy life for every individual. For this to take place the nutritionally adequate diet should be biologically utilized so that adequate performance is maintained in growth, resistance or recovery from disease, pregnancy, lactation and or physical work. Hence adequate health and care must be provided in addition to adequate food. Herein lies the problem facing poor households today. Food insecurity has the potential to influence food intake and ultimately the health and nutritional status of households. In developing countries over 85 percent of the food consumed by poor households in rural

setting is obtained from the farm<sup>1</sup>. The importance of foods purchased from markets in meeting household food security depends on household food income and market price. The seasonality of foods available at the household level may highly influence food availability in places where little to no food preservation is practiced. This is the case with fruits and vegetables, which are highly perishable.

## **Challenges to Food Security in Africa**

### *An Underdeveloped Agricultural Sector*

The major challenge to food security in Africa is its underdeveloped agricultural sector that is characterized by over-reliance on primary agriculture, low fertility soils, minimal use of external farm inputs, environmental degradation, significant food crop loss both pre- and post-harvest, minimal value addition and product differentiation, and inadequate food storage and preservation that result in significant commodity price fluctuation. Ninety five percent of the food in Sub-Saharan Africa is grown under rain fed agriculture<sup>2</sup>. Hence food production is vulnerable to adverse weather conditions. There is an overall decline in farm input investment including fertilizers, seeds, and technology adoption. Access to fertilizer use is constrained by market liberalization and trade policies that increase fertilizer prices relative to commodity prices, limited access to markets and infrastructure, limited development of output, input and credit markets, poverty and cash constraints that limit farmer's ability to purchase fertilizer and other inputs<sup>6</sup>. The soils continue to degrade leading to a reduction in the productivity of the farms. Some of the causes of soil fertility depletion in Africa include the limited adoption of fertilizer replenishment strategies and soil and water conservation measures; the decline in the use and length of fallow periods; expansion of agricultural production into marginal and fragile areas; and the removal of vegetation through overgrazing, logging, development, and domestic use. Other causes include rapid population growth, limited access to agriculture-related technical assistance, and lack of knowledge about profitable soil fertility management practices leading to expansion into less-favorable lands. A significant amount of the food is lost through pre- and post-harvest losses. The tropical climate makes foods produced in these regions prone to pests and diseases. Poor handling and storage further increase the post-harvest losses. Management of the African agricultural system is further complicated by the existence of diverse heterogeneous systems.

### *Barriers to Market Access*

Access to markets is the second hurdle that smallholders have to overcome. The problem is many-fold: poor infrastructure and barriers in penetrating the market caused by their limited resource base, lack of information, lack of or inadequate support institutions and poor policies in place among other factors. Poor infrastructure literally limits the markets to which farmers can profitably take their produce by increasing the cost of transportation, and hence also acts as a barrier to market penetration. Other barriers include market standards, limited information, requirements for large initial capital investments, limited product differentiation, and handicapping policies (see handicapping

policies section below). While almost any of the farm produce sells at the village level market, consumers are quick to discriminate against produce that is comparatively inferior, hence farmers have, over time, adapted to selling only that which will sell. This is a highly subjective process that has worked traditionally. However, when the same farmer wants to sell the produce to high-end markets, then subjective standards no longer work. The farmer is forced to meet objective standards such as size, quantity, and quality. The quality aspect of the standards is of major concern and gets more rigid where the food crop is for export. It is as detailed as the nutritional content per serving size, allowable bacterial load, and residual pesticide. Some markets have zero tolerance on the latter. The other aspect of the problem is the variation in the standards between markets. They are so varied that they necessitate the farmer to identify the market before production. Yet, the markets are not static. The volumes required and sometimes the standards vary. The farmers' risk is increased. Apart from the fact that standards in themselves provide a bottleneck as to the crop and amount thereof that a farmer can produce, standards also put a strain as to who can produce. Lastly, Africa's high export costs limit farmer's access to the international markets. In order to meet the standards there is need for information, capital, technology and expertise that the smallholder farmers have no capacity to meet without external assistance.

### *Effects of Globalization*

Globalization is a concept that allows countries to benefit from capital flows, technology transfer, cheaper imports and larger export markets in the long term. However, the effect of globalization on any country depends on that country's level of economic development, structures in place during the implementation stage, flexibility of its economy. Globalization has three dimensions. The first refers to the multiplication and intensification of economic, political, social and cultural linkages among people, organizations and countries at the world level. The second dimension is the tendency towards the universal application of economic, institutional, legal, political and cultural practices. This is related to the first dimension in that increased linkages generate a need for common institutions and rules. The third dimension is the emergence of significant spillovers from the behaviour of individuals and societies to the rest of the world. Due to the interrelation of the various dimensions, policies made in one country are bound to have effects on another. With globalization comes liberalization of markets. The food security threat caused by liberalization is due to dumping of heavily subsidized produce in developing countries and premature exposure of upcoming industries to genuine competition from producers in developing and developed countries. In addition, most profits are repatriated by transnational companies<sup>7</sup> reducing the potential for poverty reduction to direct employment alone. In most cases, the pay is low because the national policies do not protect the labourer.

### *Disease and Infection*

Disease and infection continue to plague the African continent. Diseases such as malaria, tuberculosis and HIV/AIDS not only reduce the man-hours available to agriculture and household food acquisition, but also increase the burden of household in acquiring food.

In Sub-Saharan Africa, AIDS is the leading cause of adult mortality and morbidity. The Food and Agriculture Organization of the United Nations (FAO), estimates that by 2020 the epidemic will claim the lives of 20 percent or more of the population working in agriculture in many Southern African countries. More than two thirds of the total population of the 25 most affected countries resides in rural areas, affecting agricultural production as well as farm and domestic labour supplies<sup>3</sup>. Lack of resources also makes it more difficult for HIV-affected households to supplement their diet through the purchase of more nutritious and varied foods. The effect of malnutrition on food security is further exacerbated by the fact that individuals affected by disease and infection, have greater nutritional requirements.

### *Handicapping policies*

Poor policies have greatly affected the food security in Africa. The problem arises when the focus on policies, structures and institutions is put above that of the people themselves. When policies are not inclusive in their design they tend to handicap the exempted lot by providing barriers. One such way in which this may take place is uneven development within countries where certain regions are preferentially developed for political reasons at the expense of others. Policies that promote monopolistic competition for the large-scale industries hurt the cottage and small industry. When we fail to provide safety nets for vulnerable groups, we doom them to destruction.

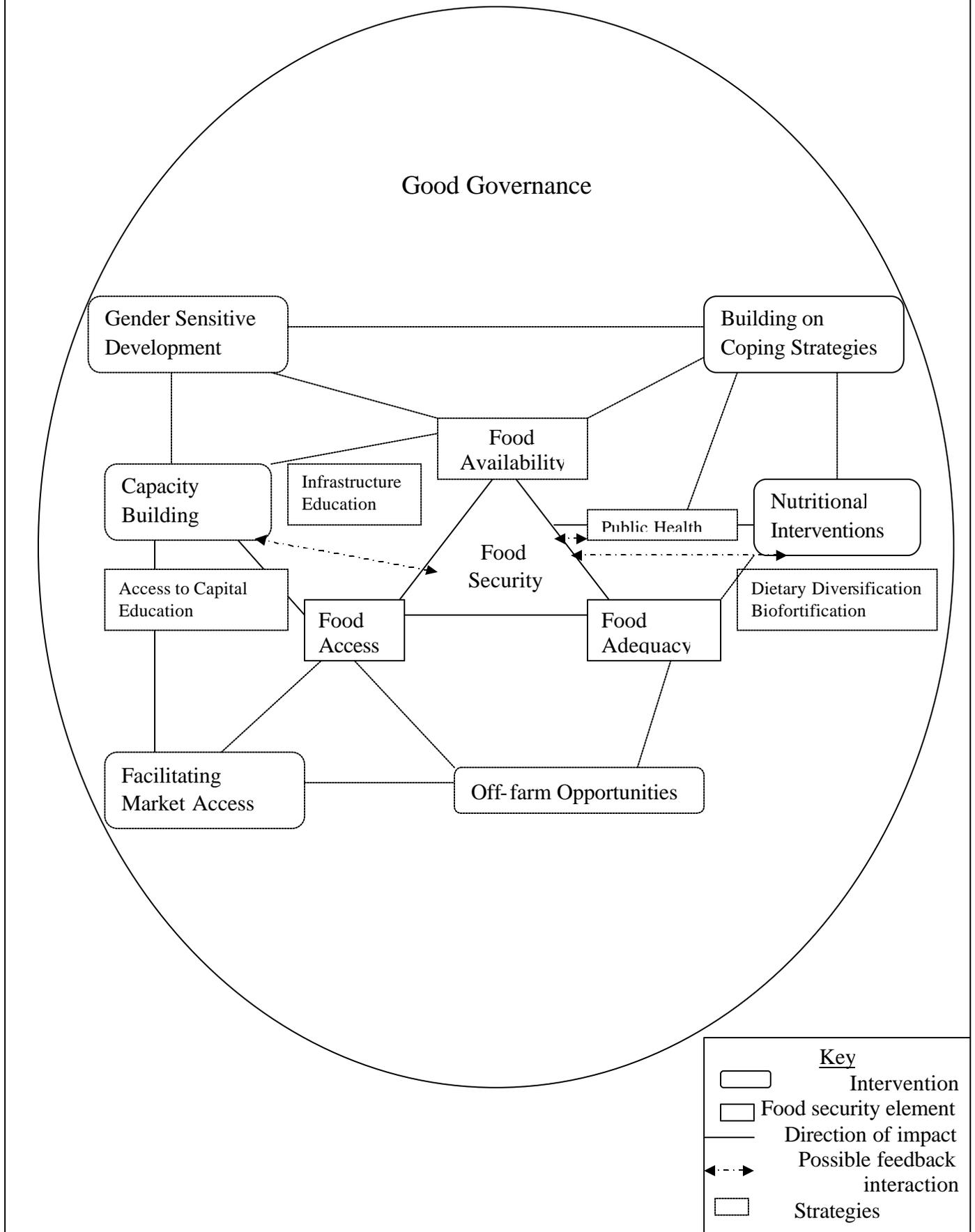
### **Food Security Interventions**

How then can Africa achieve food security? The solution lies in increasing food availability, food access and food adequacy for all. Because the food insecurity in Africa is directly correlated with poverty, it is necessary to not only alleviate poverty but also create wealth for the target population. The key lies in mutual honest intention from multi-stakeholders to ensure that all is done with the sole purpose of benefiting them. This is what makes this forum so special. I propose seven strategies that when implemented together would hold good prospects for substantially alleviating food security in Africa. These are:

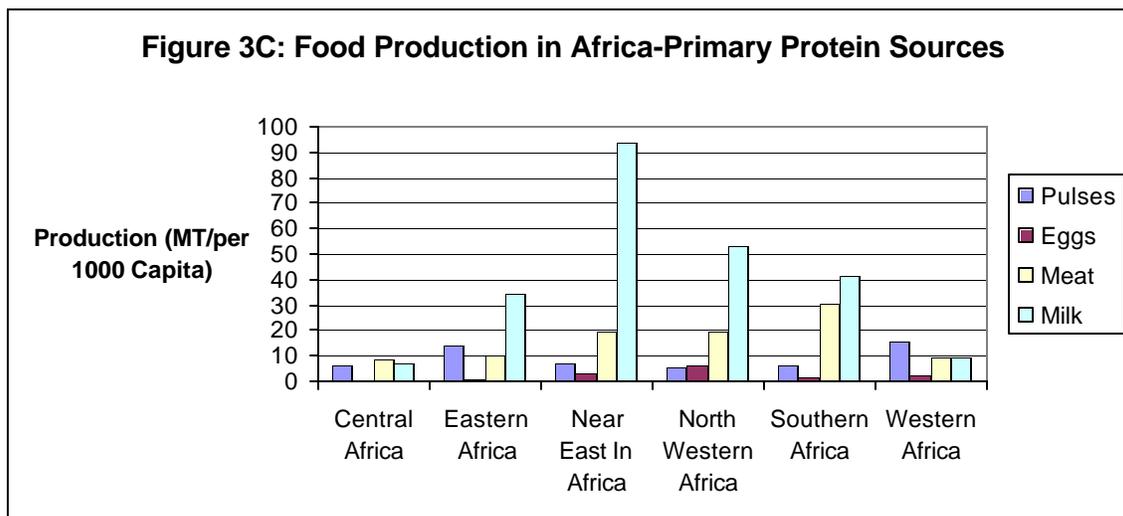
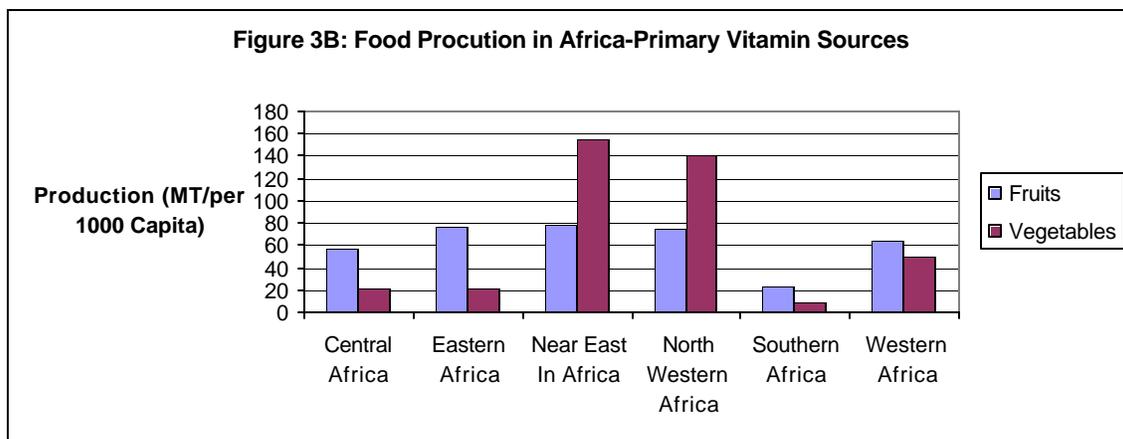
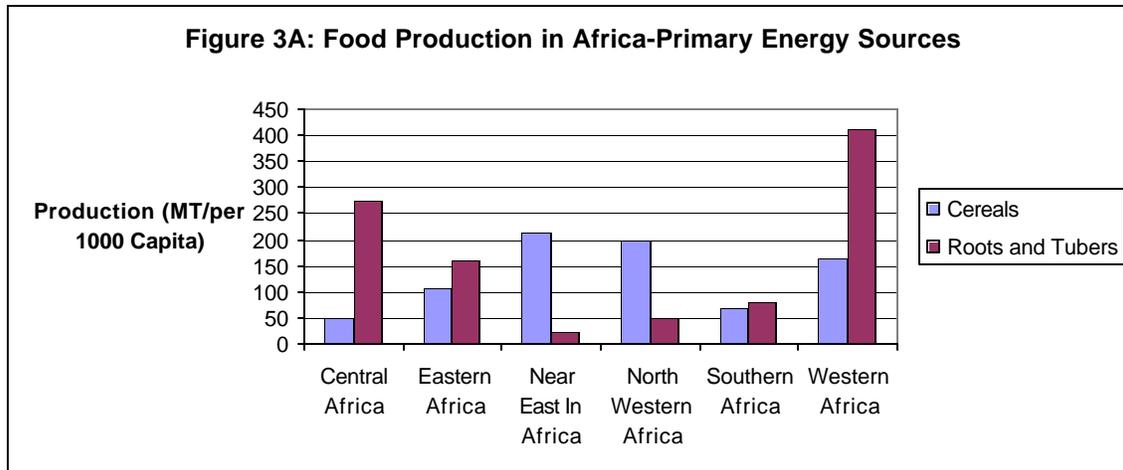
- Nutritional interventions;
- Facilitating market access;
- Capacity building;
- Gender sensitive development;
- Building on coping strategies;
- Creating off-farm opportunities; and
- Good governance.

**Figure 2 illustrates how these strategies interlink to ensure food security.**

**Figure 2: Primary Conceptual Framework on the Mechanism of Proposed Food Security Interventions in Achieving Food Security in Africa**



**Figure 3: Food Production in Africa**



Data source: FAOSTA using data for 2004  
<http://faostat.fao.org/>

### *Nutritional Interventions*

Malnutrition has devastating effects on any population. It increases mortality and morbidity rates, diminishes the cognitive abilities of children and lowers their educational attainment, reduces labour productivity and reduces the quality of life of all affected. I propose that in addition to investing in short-term interventions, which are vital, African countries should increase their investment in long-term interventions such as dietary diversification, food sufficiency and biofortification. These have lower maintenance costs, a higher probability of reaching the poor who are vulnerable to food insecurity, and produce sustainable results. Dietary diversification still remains the best way to provide nutritious diets to the sustainability of any population. It is possible to obtain the right mix of food to alleviate malnutrition from that which is locally produced<sup>8</sup>. The probability of so doing is increased with increase in locally produced foods. Africa needs to increase its production of animal products, fruits, pulses and vegetables (see Figure 3). Increased production would in part make these foods affordable to the poor and increase their protein, vitamin and mineral intake. One sure way is to revisit the cultivation of traditional fruits and vegetables that are adapted to prevailing environmental conditions. Once produced, there is need for more stringent post harvest loss prevention measures. In addition, East and Central Africa should increase their roots and tuber production so as to reduce their dependency on cereals. This reduces the risk of crop failure during droughts since tubers like cassava are relatively more drought tolerant. We must continue to strive for food sufficiency. Food insufficiency creates dependency on the supplier and could be used as a weapon to bend preferences to the master's liking. If Africa is to be food sufficient it must produce more food not only in quantity but also in variety.

As earlier alluded to, the diets of the poor are deficient in minerals and vitamins. About 85 percent of the food consumed in these households is in its primary form. This limits the effectiveness of fortification to alleviate micronutrient malnutrition. Research is under way by various institutions to increase the micronutrient density of staple crops, which will sustainably alleviate hidden hunger. One such group is HarvestPlus, which aims at increasing the bioavailability of iron, vitamin A and zinc in crops such as maize, beans, sweet potatoes and cassava. The preliminary results from our team are promising. Implementation of biofortification has occasionally been referred to as the second green revolution. The question is: Will Africa be ready? There is need to set up the facilitating tools now. There is need for capacity building that will facilitate the adaptation of these crops including developing the agricultural extension sector, the seed industry, research and development institutions that would in addition test the effect on marketability, and infrastructure.

Disease and infection increase the nutritional requirement of the individual affected and may reduce nutrient intake through loss in appetite increasing the risk of malnutrition. More than half the water consumed in Africa is untreated. This causes water borne diseases, which lead to diarrhoea and thus nutrient loss from the body thus increasing nutrient requirement of the population. Africa continues to lose many children through diarrhoea. We need to invest in childcare and educate mothers on hygienic practices. For

sustainable results, support systems should be put in place. Malaria, tuberculosis, HIV/AIDS and other related diseases continue to plague the continent. There is need to promote prevention practices and find affordable curatives. We need more accessible, affordable and adequately equipped health care centres.

### *Facilitating Market Access*

There is need to remove the barriers to trade. The focus by most African governments has been to open up markets in the hope that their people will benefit. Study shows that the projected gains of world trade liberalization tend to be minimal in Sub-Saharan Africa and that the income gains from trade liberalization will go to countries with a competitive advantage in the markets concerned<sup>9</sup>. Perhaps it is time that Africans produced for Africans both within the continent and diaspora, increased their south to south trading, and consolidated their efforts on their comparative advantage for mutual benefit. We would have more control of the market if we acted as one.

### *Rural Off-farm Opportunities*

Rural off-farm opportunities will provide opportunities for both the landless rural poor and the group of non-adopters that fall out of business when the agricultural sector becomes more efficient. In addition, provision of off-farm opportunities will curb rural to urban migration and possibly induce some urban to rural migration. It would reduce the number of non-motivated farmers who took up farming just because they had no other options, thus paving the way for more efficient farming. Some of the opportunities that African countries can look into include cottage industries that process food crops by value addition and/or enhancing shelf life through preservation techniques; production of small scale processing machinery; provision of credit; contract processing facilities; and market facilitation. Specific activities may include the production of items with enhanced shelf life that would allow for marketing in distant markets. These products may range from dairy products such as butter, cheese and ghee, to pre-processed and packaged cut vegetables such as carrots and shelled garden peas for the urban population; to dried fruits and vegetables. More sophisticated, yet relatively technically easy to produce products, such as starch and vegetable oils, may also be produced. For this to be achievable there is need for collaboration amongst the multi-stakeholders.

### *Capacity Building*

Africa should focus on education, research and development, access to capital and infrastructure development. Measures to facilitate free primary education throughout Africa are urgently required. Education not only endows one with the power to read and hence be informed, but it also allows one to communicate. As an intervention to food security, education must go beyond the level of reading and writing to that of transfer of knowledge. To be useful, information transfer should be two-way. The poor have an idea of what would work for them and what they need. Since they are supposed to be the primary beneficiaries of food security related policies, it would be prudent to at least listen to them. In addition, education will open avenues to off-farm employment, thus

acting as a safety net. It is time that Africans played an active role in research and development on matters that affect them. This includes food preservation at the village level, alternative medicine to make health more affordable to its people, creating more efficient agricultural extension, options for improving soil fertility, best approach to manage the different agricultural systems, and marketing strategies that would work best for a given group of farmers. Care should be taken to modify available technology to suit community setting and not the other way round. For benefits to be realized in all areas, infrastructure development must be high priority.

### *Gender Sensitive Development*

There is an intrinsic gender issue where poverty is concerned. One of the ways in which this is manifested is in the shift from woman-lead leadership to man-lead leadership as one moves from subsistence farming to market driven farming. Women are important as food producers, managers of natural resources, income earners and caretakers of household food security. Agricultural productivity has been said to increase by as much as 20 percent when women are given the same inputs as men<sup>1</sup>. The education of women is known to produce powerful effects on nearly every dimension of development, from lowering fertility rates to raising productivity, to improving environmental management. If women are to be fully effective in contributing to food and nutrition security, discrimination against them must be eliminated and the value of their role promoted. However, care should be taken not to aggravate the male gender while we pursue the noble task of empowering women. If we do not have the support in the local communities, public investments in education are less effective. We should, as much as it depends on us, avoid imposing our preferences on society without taking time to understand the existing cultural structure. As and when possible, an inclusive approach where men and women complement each other to achieve set objectives should be used. One way to do this is by having open communication and group meetings. Nothing facilitates suspicion more than a breakdown in communication. If both men and women had more equal schooling, incomes, and therefore the economy, would grow faster. When only half of the labour force is able to read and write, obtain credit, develop a work skill and obtain work, it is hardly surprising that there will be losses in output. There is, without question, a need to address issues related to women's low status that is evident in their minimal access to resources like inputs, land, and credit and the fact that they have low income and low literacy. There is a tendency for planners and policymakers to think that rural women do not know their own problems. These women can clearly articulate their problems based on their own experience. We need to use methods like focus group discussions that capture this. It is not enough for the poor to have property rights over land, water, trees, or other assets unless there are services to make those assets productive. Such services include roads, transport, access to market, and communications.

### *Building on coping strategies*

While we all agree that poor societies need help to alleviate food insecurity and poverty, we must give them credit for surviving on meagre resources for so long. They must be

doing something right. At the very least, they have an idea as to what strategies and implementation tactics would work, given their socio-cultural framework. Let us learn from them and build on strategies that have worked for them as we intervene to alleviate their food insecurity and poverty. From my experience, they have strong family bonds that allow them to “pool resources”. Everyone in the family participates. Even the elderly chip in by being caretakers of the little ones during working hours. In addition, children also chip into the wellbeing of the family by performing tasks such as house care, fetching water, or selling at the family kiosk. They have strong loyalty to their chiefs and elders, religious leaders, midwives and traditional doctors. Each of this group of leaders provides specific functionality that sustains the society. Midwives serve as consultants for the mothers who depend on childcare, healthcare and nutritional education. Chiefs and elders serve as security officers, information sources and the “go to” persons in the society. They are the link to the community. To be successful in this setting, one would do well to have key informant interviews with these leaders.

### *Good Governance*

While it could be argued that all the above interventions are part of good governance, special emphasis on the need for good governance is prudent. All the above strategies can only work in a peaceful, corruption free environment. Part of good governance is the provision of safety nets to vulnerable groups. It should also provide for the minority and be totally inclusive in its decision-making. There is need to delink political interests from the basic needs of a nation. More often than not sustainable food security measures are long-term strategies, which need to be protected from volatile political interests of leaders. If this means that departments dealing with such issues need to be stable, then so be it. In addition, it is in everyone’s best interest to have only the best handling the issues at hand without political interference from governments and donors alike.

### **Conclusion**

In conclusion, the fact that we are discussing food security in Africa, and that there are many resources available that address the topic, is evidence that multi-stakeholders care about Africa’s food security. For it to become a reality, we should take the cue from NEPAD’s first strategic objective and facilitate African leadership to take ownership of and responsibility for Africa’s development agenda.

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Addressing food security in a changing climate, therefore, is key for a rising Africa in the 21st century. Trans-border solutions. Climate change does not respect boundaries hence it is necessary for African countries to work together to build resilience to its adverse weather effects. Regional approach to development can enhance African countries' competitiveness for economic growth and can also address human security issues in Africa. Human security means access to life's basic needs such as food, shelter, clothing, education and health care, as well as the non-material conditions of human existence like freedom, liberty and participation in the decisions of the community that affect their lives. Around the world, regional approach has successfully improved human security. Boosting local production is key to addressing food security in the region. Because of subpar logistics management, efficiency issues and a lack of coordination among government agencies across the two countries, causing congestion within the port of Djibouti, the movement of essential goods slows down significantly. Cargoes waiting to be handled at Modjo Dry Port, the largest dry port in Ethiopia, located about 70 km south of capital Addis Ababa. Africa Food Security Statistics Department Issue N° 5, April 2014. AfDB. Chief Economist Complex. The developmental and poverty-reduction imperatives associated with food security in Africa provide the fundamental rationale behind the Africa Food Security Brief. The Brief monitors food prices and food availability-related factors and trends in the region, as volatilities in these areas in the short term often signal deteriorating food security and worsening poverty. This fifth issue of the Brief provides an update of the global and African food price and food production trends, focusing on the period July to December 2013. However These grand challenge innovation grants will be issued and administered under Grand Challenges Africa (GCAfrica), a programme implemented in partnership with the Bill & Melinda Gates Foundation. Goal. Address inequities in food security and nutrition. May potentially build on existing partnerships, which will be essential to achieve results at scale. Evaluation and Selection Criteria. 8 Challenges to achieving food security. 8.1 Global water crisis. 8.2 Land degradation. Food security can be measured by calories to digest out to intake per person per day, available on a household budget.[12][13] In general, the objective of food security indicators and measurements is to capture some or all of the main components of food security in terms of food availability, accessibility, and utilization/adequacy. The Democratic Republic of Congo is the second-largest country in Africa and is dealing with food insecurity. Although they have an abundance of natural resources, they lack accessibility of essential foods, which makes it difficult for the Congolese people in their daily lives.