

# Households Strategies to Ensure Sustainability and Food Security in Sub-Saharan Africa

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## ARTICLE DETAILS

### Article History

Published Online: 16 Jan 2020

### Keywords

Climate uncertainty, Environmental risk, Low Productivity, Undernutrition, Food Insecurity.

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## ABSTRACT

*In examining the nature of agriculture sector in sub-Saharan Africa, one finds an overwhelming persistence of disparities in terms of resource allocation, deepening income inequality with pro-found social, economic and political ramifications. Despite the regions diverse vegetation cover, agriculture sector is inherently vulnerable, where drought is a major recurring risk. Subsistence farming in sub-Sahara are often dominated by small holder subsistence farmers and is associated with low productive capacity. Environmental risks, livestock disease, market risks and inter- conflicts within the states further magnify the levels of insecurity in the region. The recurrent drought, which has worsened due to climate change is still a concern for the continent. Gender disparities exists which is one of the causal factor that contributes to food insecurity. Chronic hunger and under nutrition remain pervasive in the continent despite ample agricultural endowments. Continent is strive to ensure food security which is a key to fast track towards attaining self-sufficient economy.*

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## 1. Introduction

Agriculture is indispensable in ensuring food security and for attainment of sustainable developmental goals. The sector is the key driver for economic development not just for Africa but in many developing countries around the world, providing employment opportunities and a source of food and sustenance. Given the continuous growth of population owing to urbanization in urban, towns and cities, there is a need to deliver more food of higher nutritional value. The nutritional aspect of what people eat beyond the calories is arguably a key element for mental and physical health growth. Although, the continent experienced growing urbanization, the opportunities of job creation in non-farm sectors has been slow and poverty levels remains relatively high in rural areas creating gaps and sub-optimal performance in subsistence agriculture. "The issue of agricultural productivity gaps across SSA and between and other developing regions has intensified in recent years" (Van Ittersum et al, 2013). Since subsistence agriculture is the predominant form of farming activities in the continent, the growth of agriculture and the level of poverty depends on the progress of smallholder farmers. The potential of subsistence farmers is instrumental in recognizing Africa's fast untapped potential.

"Agricultural growth is generally essential for the structural transformation, industrial development, and welfare improvement of low-income countries" (World Bank, 2007). Agriculture sector faces growing global and regional demand for food, industry and fuel. Fertile fields, thriving crops, high quality and plentiful yields, high quality numerous cattle, financial security, good education for the children, are the dreams to many smallholders. Typical environmental type, however, in southern Africa makes production systems and livelihoods more susceptible to external exposure and natural events. As a result, the potential remain largely untapped. Not surprisingly, the pattern of African agriculture has been notoriously volatile subject to major shocks and stresses

caused by climate uncertainty. In addition to climate uncertainty, famines is fairly regular in the region, even unequal distribution of food due to poverty is as much a problem. Regular droughts and long dry spells further worsened the already dry land which leads to complete crop failure and thereby perpetuating poverty.

Such situation contributes to social unrest as has happened before, in 2007 and 2008 when prices of food staples are peaked, riots took place in several countries. The 2012 Malawi food crisis set off by erratic rains causes economic hardships and country's ability to feed the citizen was at risk as the population in Malawi, faced severe food shortages. In 2010, in Mozambique hundreds of protesters took to the streets when prices of wheat went up due to global wheat shortage. Similarly, a nationwide drought that took place in neighboring Somalia in 2016, as well as the food crisis of 1972 and 1984 in the Sahel and Horn of Africa are all examples of this phenomena.

Policy makers have long been recognized the relative importance of agriculture sector to the continent and how it contributes in a number of ways. It is evident that some African countries are more dependent on agriculture than others and some have agriculture sectors demonstrated robust performance over the years. For example, Ghana has reduced by halved the proportion of people living in poverty by boosting cocoa farmers. "Senegal, child malnutrition has been lowered from 34 percent to 20 percent between 1990 and 2005 through increased agriculture national budget" (Igbohar, 2014). To emphasize the central role of agriculture in Africa's economic growth, some analysts demands for strong political commitment and enlightened leadership.

Studies elsewhere shows that an increase population will put extra pressure to already fragile farm production system that will further threaten to millions of African farmers who

depend entirely on subsistence for their livelihoods including, children, and elderly. Continued increase population as a result of urbanization particularly in developing countries is placing pressure in the current food supplies. Unquestionably, Africa needs to pay attention with the natural environment to make it more resilient to climate change, and to cope with extreme exposure. Smallholders are associated with some form of situation that are much more complex and wide ranging and are often much more heterogeneous.

Ecological uncertainty is not the only source of risk found in such dynamic environments. Over the years conflict has become a critical influence to food security. It has been argued that interstate conflicts over issues of sovereignty over domestic and territorial issues and ethnic identity are highly damaging to the food security of the inhabitants. Apparently, such conflicts have drastic consequences and has affected directly to the livelihood of the people including— loss of access to farm land, prices changes for basic commodities, livestock, increasing political marginalization within the conflicted area and breakdown community relations. Tripp argued that “situations of conflicts frequently forced especially women to become the sole provider for the family” (Tripp, 2015).

The outlook picture of agriculture in SSA, countries presents many challenging reasons and uncertainties. Besides, risk-mitigating mechanism like—use of irrigation facilitates in drought prone regions or areas having shortage of water for cultivation and inputs—fertilizers, seeds etc. which can adapt in extreme weather conditions are very limited for smallholders. “Increasing the rate of technological adoption, facilitating access to irrigation systems and improved farming practices that support resilience remains one of the greatest challenges facing the region” (OECD-FAO, Agricultural Outlook, 2016). Needless to say that, the challenges of African agriculture are complex and are multi-faced, which according to experts predicts to be worsened if not corrective measures are implemented.

Closing the technology gap meant that necessary technologies are available to meet the priority needs of farmers which play a critical role in overcoming daily hurdles. Meanwhile, many rural farmers due to illiteracy and lack of technical know-how, are found to be slow in adapting and are less open in learning new technology. Improved productivity through agricultural technology can lead to increased incomes, but adoption is associated with capital and transactions cost that poor people may not be able to afford. “This is attributed to farmers not being aware of the benefits new technology can provide, the technologies not being available at the time they are needed, or not being profitable due to land and labor allocation” (Kinuthia and Mabaya, 2017). One should also be realize that, the adoption of technology is cost-efficient. It may be mention here that, solving the problem of low agricultural productivity requires a sectoral multifaceted approach. Since, rural people are risk averse, with limited scarce resources, they often stick in low return activities of rural farming.

To improve positive cycles of food production, Africa initiated a number of service company, that provides innovative

solutions that aim towards comfortable and affordable sustainable agriculture. It appears that those that have faithfully put the program into action are seeing positive changes. While several countries have made inroads in tackling the challenges of poor production and poverty. A robust growth in agriculture sector is essential for sustained development and for generating high job opportune. At the same time, providing them with financial incentives for adopting modern farm inputs and soil management trainings that neutralize land degradation. In addition, emission of low-carbon and producing crops that are energy efficient should be accelerated. “The key is to prioritize investments and find the appropriate mix of flexible climate change mitigation and adaptation policies and tools with the highest productivity-enhancing impact among different types of farmers, crops and regions” (Bryan et al., 2011).

African agriculture has been travelled a bumpy road over the years. The food price hikes, poor harvests, poor storage facilities becomes the roadblocks for the continent to reach its maximum potential of achieving sustainable goals. “Poor public services, infrastructure and city management all obstruct economic growth in sub-Saharan African cities” (Carmody and Owusu, 2018).

Governments and NGOs and civil societies needs to pay more attention on this sector, especially, more budget needs to be devoted to agricultural research and extension services and recognized as an important engine for achieving country's economic development. “In Sub-Saharan Africa, however public investment in agriculture is still far below what is needed, despite commitments by African governments to allocate 10% of their public spending on it” (Gaiha, et al., 2018).

## 2. Strategies to Achieve Food Security in Rural

### Households

Smallholders are prone to experience stress and uncertainty, because they have less adaptive capacity to natural hazards and other threats. The World Bank explains food security as, when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life. Smallholders acquire sufficient calories and proteins on daily basis depending on the pattern of rainfall given that, they depends on rain-fed production for their staples. Unfortunately, the households that are water insecure have no choice but to allocate much of their labor energy in hauling water often over a distance of several miles. Many rural households from low income countries have inadequate domestic water supplies and poor sanitation which are the key contributor to the spread of infectious diseases in the region which also reduces labour productivity and farm output. “Food security in the world's poorest regions is as closely linked to water and infectious disease as it is to agriculture (Davis et al, 2014)).

Seasonal food security stresses comes back at different times of the year for rural farmers and herders inhabited in drier region and in neighboring environment especially dry environment experiencing less rainfall. When it comes to livestock, smallholders achieved food security through exchanging animal products for staple cereals depending on the relative prices of animal products and cereals at the

ongoing rate at which two commodities can be exchanged. However, during drought years or economic downturn farmer disposable income are bound to be affected. Unwillingness to purchase animals on the part of the buyers or traders arise due to fear that animals may not survive the drought. In addition, cereal supply shortages and increased demand of it triggers rapid price hike which deeply cuts the purchasing power of pastoralists. The agriculture pattern in underdeveloped countries explains not merely low supply of essential commodities but also inefficiency in demand.

Rural poor households are increasingly consumers rather than producers of foods, and they tend to purchase their food from expanding network in nearby towns. Rural poor more often opt for dependency on food imports and global food aid to ensure equitable amount of food. In some years, the dependency ratio is higher and the degree of self-sufficiency is attained at relatively low levels. Household surveys generally shows high rates of household consumption of agricultural commodities. For example, Republic of Rwanda, National Institute of Statistics, (2010), indicates that only half of the grain production enters market channels, the rest is consumed within producing households. During the 1990's there were sharp yearly variations in cereals and maize production levels. Moreover, recent available statistics shows marked improvement in regional cereal production levels in Africa owing to improved access to fertilizers and seed provisions, subsidy programs as well as good rains and improved economic policies.

In sub Saharan Africa, livestock become a common form of economic diversification in response to climate stressed and variability. One of the advantages of animals in such ecologically risky and variable environments is their mobility which allows them to move to the places, so the chances of conflicts over scarce resources could be avoided. Livestock mobility gives farmers sufficient animals with greater flexibility in response to external threats and is essential in ensuring food security in rural villages. Substantial economic dependence on livestock has an important implications for livelihood security. For example, farmers depends on their livestock directly in the form of security and use for education purpose, and for ploughing. Besides providing quality foods like, milk, meat and eggs, hides and skin and fertilizer (manure), they are also capable for transportation as well. Depleting water and pastures causes them to endure severe risk as they struggled to keep their animals alive, healthy and financially value as part of their primary asset. FAO reported that for pastoralists the depletion of their herds is like draining their bank accounts fueling, dangerous spiral of poverty and reliance on much more expensive emergency humanitarian assistance. (FAO, 2018).

The adverse weather conditions in recent years have caused significant food insecurity in the continent. Study shows that poor households lost up to 40-60 percent of their livestock due to animal disease heightened by the constant movement of weak animals in search of pasture and water. Climate variability are experienced in different forms including disasters, droughts and storms, changes in rainfall regime and extreme weather conditions. Some countries, owing to its

geographic location, experiences multiple stressors, including variable rainfall, widespread poverty, environmental degradation, uncertainties surrounding land transfer, limited access to capital and markets and HIV/AIDS. In sub-Saharan Africa pastoralism is an important source of livelihood for the rural poor and in this system women play a large part in agricultural production process. According to joint report by World Bank and FAO, Women produce up to 80 percent of the foodstuffs for households consumption and sale in local markets. However, despite their significant importance in the sector, they often faced multiple constraints in accessing essential productive resources, services and informations which has affected their ability to exercise full potential. Study observes that women's vulnerability is exacerbated by limited access to and control of land, despite the fact that women are the majority of agricultural producers in the region. In spite of the contributions and the task played by women in African agriculture, there is unsettling disparity in terms of resource allocation. Unequal distribution of land create major issues such as economic inequality, inefficient utilization of land that has possible consequences for women to enjoy certain freedom as a leader in global arena. It also appears that everywhere, women have to juggle multiple productive and reproductive tasks, balancing the need to earn sufficient income by way of performing other domestic tasks such as cooking, cleaning and child care.

They need to be empowered to make choices that are better for themselves and their families and equip themselves with adequate amount of trainings opportunities and programs and other inputs to improve their efficiency. Having greater economic clout has meant that women are listened to and are taken more seriously on what is happening outside world. Investing resource allocation on education and training, job creation, income generating strategies, and ensuring equitable access of such opportunities to women and girls, all these factors has the potential to strengthen food security at the same time reduces gender inequality.

From the point of view of food security, livelihood diversification is one important strategy. While, the poorest have the fewest livelihood options and at the same time livelihood diversification is least available to the poor. Some households which are food insecure are affecting the entire livelihood systems owing to failure in adapting challenges from the ecologically and economically risky environment. Sub-Saharan faces a major threat from potential climate change such as drought, land degradation, and loss of biodiversity which are the key potential stressors to agriculture. Future climate change is expected to continue to degrade the already stressed rangelands. As FAO report indicates that "food security situation appears to have worsened in particular in parts of sub-Saharan Africa and it is most pronounced in situations of conflict and conflict combined with droughts or floods" (FAO, 2017).

### 3. Strategies to Achieve Food Security in Urban Households

The economic base in urban areas is relatively diverse with services and manufacturing sector specially prominent. Households in the region obtain their food from a variety of

sources and with varying frequency. Apparently, the most important source of food on a daily and weekly basis are small retail outlets and fast foods nodes. The implications of accessing food in urban households is greater and more regular than in rural. However, it appears that urban households that are relatively better-off are still food insecure. Levels of food security in urban are principally related to household purchasing power and the ability to access food in changing prices. Thus, income is a key variable determinant to urban households. Incomes in the urban mainly derives from social grants in a form of child grants and pensions, wage employment, casual and part time work. Households that are unable to get jobs had to face considerable struggle to make ends meet by working daily off-farm and some by scraping to informal sectors. Underemployment and low-wages in the informal economy affects poor households impacting their nutritional status, especially for children and elderly. Studies shows that the urban poor are prone to both acute and chronic problems of food access often on an ongoing basis at all stages of life cycle from conception till the old age.

Poor people often buy small quantities of food daily making it impossible to benefit from low prices on bulk purchases. In dietary terms little is known about the nutritional value of the foodstuffs and ready-to-eat foods consumed by the poor. People who engaged in wage work, have probably less time at home and they often shift to processed or prepared foods including ready-to-eat street foods. Due to time constraints, limited access to storage facilities, and lack of refrigeration in many poor homes causes them to change their eating patterns. Moreover, informal economy is the major source of food supply for poorer households in the urban cities in Southern Africa. Some of the households patronized from informal sources almost on daily basis. Informal food supply market found to be significantly smaller in comparison with the larger corporate markets such as supermarkets, but they are even patronized more frequently than supermarkets as a source of fresh produce in some regions.

Probably the preferences may be due to levels of mobility, avoiding transportation, cost of purchasing bulky foodstuffs from formal market i.e, supermarket and lack of storage capacity. Even in South Africa, AFSUN survey mentions that "more than 70 percent of households in Johannesburg source food from informal markets and roadside stalls at least once a week or even more often" (AFSUN, 2012). As such, significant number of urban poor are unable to access enough food from other sources, they depend on this informal networks almost on everyday for survival.

The importance of the informal market varies from city to city. In many of the cities in southern Africa this informal markets mainly comprised of women and children who runs small stalls selling fruits and vegetable acquiring certain levels of income for a day to satisfy basic needs. Increasingly, vendors processed junk foods, street foods and snacks along the sidewalks with other healthier vegetables options to enable them to cope themselves from ever increasing poverty. Thus, reliance on informal sources provides greater flexibility in obtaining adequate food supply for urban poor.

Study elsewhere shows that eating fewer meals and minimized the amount of food intake is one strategy that households adopt in response to food shortage or inability to buy. Consequently, they are people who are often lack accessibility in quality food they desired, and switching to cheaper but less desirable ones with the notion that household lacked resources to purchase preferred foods. The formal economy which is dominated by supermarkets attracts more customers however it is seen as little relevance to ensure food security for urban poor. Research in urban Africa shows that their exists rural-urban and inter-households transfers of food among poor, which become normal source of accessing food for one in five households within the community. Such transfers of foods may amounts to significant differences for some of the households. In some part of cities, food transfers become relatively common phenomenon for urban poor neighborhoods, which could be another strategy of obtaining food security for urban dwellers.

Nutrition and dietary quality has become an important health concern in the context of rapid urbanization. Nutritional status fluctuates according to season creating a major wave of dietary differences in natural pattern of food consumption. There is households with greater proportion of child being significantly under nourished and the incidence is relatively higher in children than in adults. Young pointed out that "protein energy malnutrition, nutritional anemia, iodine deficiency disorders and vitamin A deficiency are the four major clinical forms of malnutrition in the developing world" (Young, 2001). According to AFSUN survey (2011), the absolute number of underweight children has actually increased in the Region over the past 15 years. The survey further suggest that maternal and nutritional health status requires urgent attention. Health concerns also reflects to environmental pollution, stress and overcrowded spaces, causing mental health challenges associated with urban poverty. This increasingly complex reality demands multi sectoral policies and actions.

Nowadays, the continent is associated with massive rural-urban migration and rapid urbanization often associated with nutrition transition which pose dramatic new challenges to food security. Study shows that this situation of rural-urban migration is one of the major threats to public health in the developing world and therefore, it impacts the poor to the greatest extent. A new way of food system will be required, no longer concentrating on fulfilling the needs of subsistence farmers but instead, adopting new approach of food sustainability through integrated networks and distribution chain. In developing world, urbanization is taking place at more than twice the global rate. The high variant implying an increase in population will mean an increased demand for food. In fact, continuing population growth in developing countries are expected to affect the food security of such countries. Hence, the rate of population has a profound impact on the standard of living, life expectancy, and nutritional status of the people.

To avert hunger, food production will need to increase rapidly and efficiently, and people needs to emphasize in off-farm activities requiring experience. There will also be great pressure in forests for fuel wood unless alternative energy

sources are found. Thus, it is observed that managing population growth within acceptable limits consistent with the food availability and other resources is a priority for the country. Countries in southern Africa such as Swaziland, Malawi and Zambia, experienced several threats due to population pressure and weak resiliency to natural shocks, low level of education, and concentration of more labor in unorganized sectors.

#### 4. Conclusion

Climate change adaptation and mitigation policies has become an integral part of the development agenda for fighting poverty and hunger in the region. The damaging effects of economic development on environmental degradation can be reduced by a judicious choice of economic and environmental policies and environmental management. Africa needs to work more friendly with the environment, not exploiting the benefits of genetic modification but paying more attention to water conservation, the maintenance of soil fertility and the use of information technology to conserve resources and improve efficiency.

Methods needs to be adopted by small holder farmers is effective application of agricultural innovations. Acquiring good quality seeds are often difficult to come by and are unaffordable to the subsistence farmers. Therefore, government budgets should devoted to intensification of agriculture. For this, public expenditure is an important element. Government can initiate economic environment through judicious use of government budget. "Critical interventions must be based on developing institutional frameworks for action, drought-resistant crop varieties, smallholder water harvesting and supply strategies, and strategies for alleviating poverty aimed at making people more resilient to climate variability" (Hachigonda et al., 2013).

Pursuing agricultural programs such as agricultural research, seed production, soil management, extension service, support and marketing. Weak and segmented economies as in many African countries have been a causal factor for food crisis thus, magnifying the problem of food insecurity in urban and rural households. Setting incentives and regulatory framework where producers can make production decisions. "Africa needs more efficient supply chains that provides a more equitable transfer to farmers and more intense collaboration with the private sector" (Afreximbank Report, 2018). There is a need to design gender mainstreaming strategies and programs as well as develop concrete monitoring systems to track progress towards gender equality. Strong education systems are key drivers of economic growth not just for Africa but for the entire world. Public investment in education for women is vital in building a highly skilled and educated workforce and in sustaining Africa's prosperity and progress. The contribution of women to agriculture and production is clearly significant. Governments and other stakeholders need to seek at ways of empowering women with knowledge, skills and necessary resources for it allows them to venture towards higher productive opportunities. Increasing women's human capital endowments, earnings and productivity strengthens their bargaining power.

Therefore, in order to improve people's livelihood and eliminate poverty, one can say that governments in Africa must devote much of their portion of wealth not to procure arms but for educational opportunities for all, especially women, and create better living conditions through providing attractive jobs, reasonable salaries and better housing. If Africa are to realize their potential, they need to overcome the undernourishment that afflicts more than half of their entire people.

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