

# FOOD SECURITY MANAGEMENT THROUGH PUBLIC POLICY

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**Abstract:** This paper emphasises the role of public policy in addressing food insecurity. It begins with an elaboration of the food security concept. In this regard, the paper argues that the conceptual framework for food security should seek to ensure that food is available and accessible to each individual in sufficient quantities to guarantee nutritious diet and good health. In terms of food availability, the paper addresses three aspects, namely, food production, food trade/markets and food aid. In all of these, public policy is crucial to ensuring good performance.

In terms of access to food, the paper argues that there is need to develop appropriate policies and institutions that promote investment in productive assets, improves human capabilities and skills, expands commodity markets and trade opportunities for both agriculture and non agriculture commodities, and promotes social capital. These recommendations are based on the fact that the aspect of food accessibility takes food security issues further afield, with poverty and under-development being root causes of food insecurity. To this end, the paper argues that sectors other than agriculture should become prominent, thereby bringing to the fore issues such as employment generation, broad-based economic growth and sustainable development. In all of these good public policy is crucial.

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## INTRODUCTION

The concept and practice of food security has evolved gradually over the years, not only in Tanzania, but throughout the world from an initial emphasis on national food self-sufficiency to food access at the household level. Food security now encompasses issues that range from food production to non-agricultural issues.

The conceptual framework for food security now seeks to ensure that food is available and accessible to each individual in sufficient quantities to guarantee him/her a nutritious diet and good health.

Food security has many different interpretations. It is therefore necessary to define what is meant here by the concept of food security. Food security is "access for all at all times to a level of food sufficient for an active and health life, (World Bank, 1986). An alternative definition was given as "the ability of a country or a region to assure, on a long-term basis that its food system provides the total population access to a timely, reliable and

nutritionally adequate supply of food." (C.Eicher and J.Staatz, 1987).

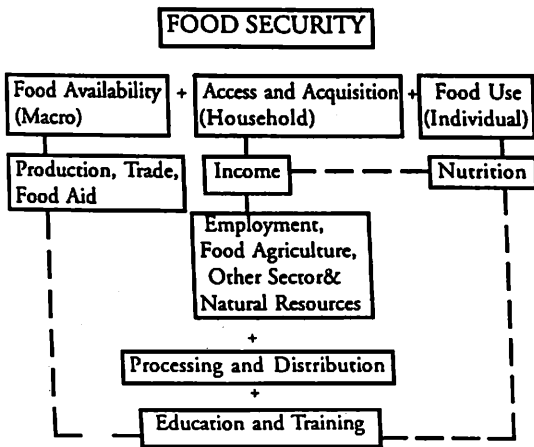
It is important to note that both definitions embrace the notions of availability and accessibility and address quantitative and nutritional aspects of food security. Hence in dealing with problems of food insecurity, the issues of nutritional well-being must be addressed. The second definition in particular views food security as something that should be achieved/delt with at local, national and regional levels. To a large extent, (economic) problems of food security have so far been limited to the investigation of aspects of availability, access and consumption of food products.

## The Conceptual Framework

The following figure depicts diagrammatically the definition of food security.

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#### ELABORATION OF THE FOOD SECURITY CONCEPT

The main categories constituting the definition of food security in the above conceptual framework are food availability, access/acquisition and food use. Some of the salient issues underlying them are as described below.

#### Food Availability

Three aspects encompassed are food production, food trade/markets and food aid. Under these aspects, an endless list of policy issues is implied. These encompass the prime movers of agricultural development, including issues such as land reform/agrarian reform.

#### Food Production

The food production process involves three factors of production; land, labour and capital. These also imply a host of policy and institutional issues, which fall under the following broad and general classifications:

*Land-based:* e.g. land reform, soil conservation and management, agro-ecological and climatic factors, etc.

*Labour-based:* e.g. agricultural education, training, extension, research, health and skills imparting.

*Capital-based:* physical and social infrastructure, markets, technology development, inputs, financial resources, credit institutions and credit provision, to mention some examples.

#### Trade and Markets

The development and performance of markets are regulated by the domestic and international economic policy and institutional environment. While economic theory emphasizes the need for exploiting comparative advantage and trade opportunities, the reality is that inappropriate government trade and pricing policies may hinder the development of internal markets leading to mis-allocation of productive resources and structural inefficiencies that hurt the poor and food insecure.

On the other hand, experience in SADC/EAC states is that total reliance on markets assuming them to be efficient resource allocating mechanisms leads to great inequality and food insecurity. Poverty and economic hardship are sources of social strife and unrest.

Due to the under-development prevailing in developing countries, there are inherent constraints that make markets imperfect. They are commonly inaccessible because communications and roads are yet to be developed. Despite recent economic policy reforms which have seen governments withdraw from direct market interventions and participation, the private sector has not been quick to fill up the market vacuum. In some cases prices have skyrocketed beyond the reach of the urban and rural poor due to market rigidities. The food-insecure people have increased in towns as a result of the economic reforms and retrenchments. Meanwhile, protectionism and unfair trade practices are rampant in international markets.

Policy challenges implied include how to provide appropriate incentives to develop the fragmented and infant markets so that they can also serve the poor and food insecure. Or whether governments should revisit the

sequencing of market reform measures so that they are sensitive to the realities that prevail in the economies and lives of the food insecure.

### *Food Aid*

There are two major issues implied on this aspect; the positive one being that food aid provides immediate relief and averts starvation and hunger, the negative one being that food aid tends to depress food markets and prices, acts as a disincentive to self-reliance thereby rearing the dependence syndrome on the part of the food insecure. The latter contradicts long-term development efforts.

In addition, there are problems of administering and targeting the genuinely food insecure resulting in food aid benefiting those who do not deserve. In Southern Africa, experience has also shown that food aid can be utilized for political or other maneuvering. These issues need research and redress.

### *Access and Acquisition*

The goal is to guarantee access to food by individuals. This is related to the prospect of losing entitlement to food as of the present and future. In order to guarantee access to food some or all of the following need to be examined and appropriate policies and institutions developed.

### *Capital*

Physical capital in the form of productive assets, labour and skills, which can be exploited (education and health). Social resources that include social security/safety nets, relatives, friends and neighbours.

### *Production*

Emphasis is on own production of sufficient food supplies, especially for farming households. If one can produce beyond subsistence requirements, an opportunity to accumulate, i.e., invest in physical, human and social capital opens up.

### *Exchange*

The existence of commodity markets and trade opportunities for selling/exchanging labour, agricultural produce, non-agricultural products, etc., guarantee a steady income flow that ensures a risk-free access to food.

### *Health and Nutrition*

At the nutritional level, two aspects are immediately apparent, viz., the quantity and quality of food consumed. A sufficient quantity can guarantee a daily uptake of minimum calories required to generate enough energy for an active life. An adequate amount of food intake also leads to sufficient intake of other food nutrients.

More and broader issues need to be considered under this aspect. In the first place, the nutrients need to be present in sufficient quantities before the food is on the table. This points to other processes prior to indigestion of food. These include food preparation and good sanitation etc. In order to guarantee good hygiene and sanitation for the child, the mother requires relevant education or knowledge prior to preparing the food.

### *POLICY IMPLICATIONS AND CHALLENGES*

The emphasis on food access takes food security issues further afield, broadening it beyond food availability. It then emerges that poverty and under-development are the root causes of food insecurity rather than the prospect of starvation and malnutrition. Other sectors other than agriculture, become prominent, thereby bringing to the fore issues such as employment generation, industrial growth/expansion, general economic growth and sustainable development.

Agriculture and other sectors ultimately melt into one portfolio of development strategies, taking into account relevant comparative advantages, aimed at the eradication of poverty and economic vulnerability. Thus, the

endeavour to achieve food security is elevated by definition to a strategic economic development issue.

The challenge facing Tanzania is therefore the challenge of how to attain overall economic development. Given its economic importance, this challenge also translates into a need to transform agriculture so that productivity rises and its capacity to provide employment for the growing workforce expands. Importantly, this needs to be achieved without further ecological damage which could result in lower long term output. To meet the goals of higher productivity and increased employment, a range of issues need attention. These include harnessing improved technologies, environmental management, improving rural infrastructures, enhanced popular participation in rural development planning, and redefining land rights.

### **Harnessing Technology**

With rapid population growth, the land and resource base has not been sufficient to maintain traditional extensive farming and livestock systems. Crop yields are declining and the vegetative cover is weakening, exacerbating erosion risks. More productive technologies must be used. This implies that the search for high yielding varieties must continue. Fertilizer use will also have to be expanded, with all that is implied in terms of availability, prices, credit, and extension services. Controlling pests and diseases, preferably using cultural or biological control will also be increasingly important. Expanded use of small-scale irrigation, water management and conservation technologies would also contribute to increased yields and less land degradation.

All the above, together with improved livestock breeds and the promotion of integrated aquaculture techniques imply the need for more and better agricultural research and investment.

In the context of constrained budgets in most countries of SADSC/EAC, regional cooperation in research should be prioritized. But even if research yields new varieties and techniques that are beneficial, their adoption will be limited without a sustained extension effort, whether public or private, to inform farmers.

### **Conserving Land Resources**

Reliable and up-to date data on the state of land resources do not exist. What little evidence is available suggests that about 80% of the rangelands and the cropping lands are affected by soil degradation. A common feature is the weakening of the vegetative cover, which results in over-cultivation, over-grazing, and/or deforestation. Efforts to reverse this have often failed because they usually involve farmers contributing extra labour, while low product prices and uncertain property rights make conservation appear financially unrewarding.

### **Providing Rural Infrastructure**

Improving rural infrastructure is an essential component of any programme to transform the rural economies. Facilities built in areas distant from the major markets or in food deficit areas cannot be sustained profitably in free market systems. On the other hand, rural roads and investment in small towns make it easier for the private sector to provide consumer goods, transport, trade and repair services. Investment in health and education facilities provides added support to such initiatives.

### **Redefining Land Rights**

The rights of smallholder farmers to land are often communal. Although the majority of smallholders do not misuse their land intentionally, many frequently have no choice; their poverty precludes other means of ensuring food security. Technologies to increase

productivity or to restore fertility often require the investment of capital and labour. Credit backed by collateral of land under secure title coupled with the permanent right to cultivate the land provide both the capital and the incentive to invest additional labour. These are often lacking.

#### CAUSES OF FOOD INSECURITY

**F**ood insecurity, defined as lack of access to enough food, is either chronic or transitory. The former results from a continuously inadequate diet caused by persistent inability to acquire food. The latter is a temporary decline in a household's access to enough food resulting from instability of food production, food prices and household income.

The causes of food insecurity cannot be understood only in terms of focusing on climatic and production variables as is sometimes done. Neither can such causes be understood by focusing on economic conditions and political crises. We must also look at the role played by economic variables at household, national and regional levels. Food insecurity with its severest expression in famine is the outcome of an interaction between environmental and socioeconomic factors - both in the short and in the long term, and a failure of policy to address them.

The major initial cause of food insecurity is the agricultural production environment, particularly drought. Production failures caused by drought do not lead to chronic food insecurity unless there are deficiencies in public policy, which hinder the growth of households out of poverty. Policy should address issues such as environmental degradation, nonagricultural employment opportunities, health and sanitation and improved but profitable agricultural technology. Another factor exacerbating food insecurity is inappropriate macroeconomic and trade policies. Other factors include internal warfare, weak

government structures, lack of information, poor infrastructure; mounting debt burden and absence of transparent decision making process (democracy and good governance).

More than often, governments focus their attention on transitory food insecurity. They respond to this form of food insecurity because of the impact of food shortage on food prices and fear of political unrest. Little attention is given to the chronically food insecure who are much fewer than those experiencing transitory food insecurity. The chronically food insecure need to be identified and targeted for support. It is absolutely necessary to make a distinction between saving lives and saving livelihoods. Targeting should be focused on those whose lives are in danger.

Traditional policies for addressing chronic food insecurity differ from those for addressing transitory food insecurity. Policies to deal with chronic food insecurity include increasing the food supply (through production, trade or improving domestic market integration) subsidizing consumer prices and targeting income transfers. Policy options for reducing transitory food insecurity may include stabilizing food supplies, increasing real incomes, stabilizing prices and assisting vulnerable groups directly.

Rural incomes fluctuate due to swings in agricultural and food production caused by changes in the weather and in the export prices of agricultural products and other commodities. Food prices fluctuate as a result of shifts in domestic and international prices, reflecting supply and demand relations. Promoting drought resistant crops, and promoting nonagricultural income earning activities to the farming population can prevent transitory food insecurity. Where these measures cannot be employed, then measures to keep food prices reasonably stable between seasons and from one year to the next should be taken. This will require government intervention. But before any such

intervention, there is need to understand how much price instability there would be without intervention. In the absence of government intervention, there are three causes of unstable food prices (i) instability of domestic supply and demand (ii) the effective exchange rate and (iii) international prices.

#### TANZANIA'S POTENTIAL LIMITATIONS ON FOOD SECURITY

In reviewing statements of the agricultural development strategies in Tanzania one observes that concern with agricultural growth and with food security ranks high. However there are potential limitations for achieving food security in the country. These are characterised by the following.

First, the physical and human resources exist to produce and distribute adequate food to meet needs of all households given current population. At the same time many rural households fail to produce or acquire an adequate supply of food.

Second, many households are engaged in subsistence farming. They have access to a set of resources, which are inadequate to provide a sustainable and continuous food supply. The land area is too small or too prone to drought or both, to provide a reliable supply of food given the cropping patterns and levels of technology. Neither are local off-farm employment opportunities available to provide purchasing power to adequately supplement the deficiency in own production.

Third, significant areas of semi-arid land are currently cultivated under condition of increasing population-land ratios, putting pressure on the land resource. The farming systems are not sustainable over the long run thus, leading to land degradation.

Fourth, years of parastatal involvement in agricultural marketing and distribution have left the country with weak and inexperienced private sector and underdeveloped supporting

institutions. The simple withdrawal of government has not resulted in efficient performance of marketing and distribution functions.

Fifth, a combination of geography and inadequate infrastructure has resulted in high transport costs both for movement of commodities and people. This has profound effects on the marketing and distribution systems, and comparative advantage among the regions of the country and between Tanzania and other SADC/EAC states.

Lastly, a combination of trade restrictions and market related policies including regulations of all types greatly restrict the actual and potential for inter-regional trade. The potential gains from agricultural trade have not been realized.

#### FOOD SECURITY OBJECTIVES

Food security objectives/goals can be categorized into four main ones as follows:

- i) To ensure efficient growth in the food and agricultural sector;
- ii) To improve income distribution, primarily through efficient employment creation;
- iii) To meet required nutritional status for the entire population through provision of a minimum subsistence floor for basic needs; and
- iv) To ensure food security over time to reduce risks emanating from bad harvests, natural disasters or uncertain world market for food.

Increasing agricultural production and adjusting economic policies to raise income are perhaps the most important strategies to improve food security within Tanzania. However, a focus on agriculture and economic growth will not be enough to address food insecurity. There is evidence to the effect that even in areas with surplus food there are still many people suffering from malnutrition.



It is therefore essential to look beyond growth and design strategies to help reach the poorest people. Such complementary strategies may include the following:

- ◆ Giving priorities to projects and policies that increase the income of the food insecure;
- ◆ Making more systematic efforts to identify the food insecure of different subgroup. Identifying them is a pre-requisite for preparing tailored cost-effective programmes to improve food security; and
- ◆ Strengthening the institutional capabilities of government to initiate and effectively manage food security programmes.

### **Ensuring Efficient Growth in the Food and Agricultural Sector**

An efficient system to produce food is the cornerstone of a food strategy to address food insecurity. To achieve production efficiency, location price differences, which reflect cost differences, must be allowed to exist. Through market liberalization policies the Tanzanian government has stopped administering food prices.

In most discussions on food strategies the issues of motivating farmers to produce more is almost always a central theme. In Tanzania where smallholder farmers dominate in farm activities the issues of price incentives for farmers is even more crucial. Sufficiently high farm gate price of agricultural products and sufficiently low farm input prices and incentive goods are needed so that farmers can be encouraged to increase production. Agricultural support services such as agricultural research and extension and credit facilities form part of these production incentives. Unfortunately, many agricultural research organizations have not produced feasible proven packages, which are easily adopted by farmers. The green revolution, which happened quite successfully in Asia and Latin America, has by-passed

Tanzania. Appropriate technology packages now available within Tanzania; have not been profitably transferred to farmers. The complexity and diversity of farming requires that more location specific and crop-specific research together with on farm experimentation be undertaken.

### **Improving Income Distribution Through Efficient Employment Creation**

By recognizing that hunger often results from inadequate effective demand rather than simply inadequate food supplies, food security analysis links hunger with poverty. Hence poverty eradication must be one of the objectives of development strategy. Measures to promote agricultural development and export growth are completely congruent with steps to eradicate poverty in rural areas. In addition, measures to improve health and educational levels among the rural poor have an important effect on the adoption of innovation. The share size of the agricultural sector in Tanzania, accounting for 80 percent of total employment, ensure that agricultural growth, through its multiplier effects will have import macro-economic implications. If farmers increase agricultural production they will have achieved higher incomes, their purchasing power will increase, calling for more rural non-farm employment. This will most likely reduce the pressure to migrate to urban areas. Urban employment is likely to increase due to higher demand from rural areas for manufactured goods, consumer goods, agricultural inputs and services.

For transitory food insecurity, labour intensive food for work programmes are likely to expand employment. Food for work programmes (FWPs) provide significant assistance to the under-employed while creating infrastructure of lasting benefit. Given their micro-orientation, they can be tailored to the problems of specific poverty groups whose employment problems are insufficiently resolved

by actions at the macro-level. Well-designed FWP's can impart major improvements in human capital both through improved nutrition and on the training. Unfortunately, FWP's do not provide a lasting solution to groups facing poor long-term employment prospects. FWP's are no substitutes for a comprehensive programme of assistance that attack the root of the poverty problem. If nothing else is done, FWP's can end up making large demands on public resources indefinitely. Tanzania does not have the financial and administrative capacity to mount and sustain a national FWP.

### Meeting Required Nutritional Status

The primary nutrition objective is to ensure that every individual gets nutritionally adequate diet throughout the year. But appropriate macroeconomic policies including food and agricultural policies will not necessarily address food insecurity of some particularly vulnerable groups such as the elderly, children, women, pregnant and lactating mothers, the sick and the handicapped. Thus a safety net must be put in place to make sure that the nutritional requirements of such groups are met.

There are two problems here. First is to identify such vulnerable groups, what they eat and why they are malnourished. Without such information, one cannot design the most cost-effective way of reducing malnutrition. Methodologies to design cost effective means of gathering such information are needed. The research capacity to do this is inadequate in Tanzania. Secondly, is how to provide such nutritional food programmes to the vulnerable groups without leakage and within reasonable budget limits? Food aid can play a vital role and has been used in providing such as safety net. For many years food aid has been an integral part of the food systems in the country. However, food aid has some major disadvantages. First, food aid donors tend to provide the types of food they have in surplus

and these may not correspond to the consumption patterns of the recipient country. Second, poorly managed or heavily subsidized food aid distributions can, through the competition they create with local products, disrupt food markets and production of local staples in recipient countries. Third, food aid allows governments to postpone needed but painful policy reforms. Lastly, food aid rarely reaches the people for which it was intended. The current experiment with approaches for using food aid as development tool may address some of the problems mentioned above. The new approach since early 1990s emphasizes the need to move away from the concept of Food "aid" towards the concept of food "insurance" which envisions the establishment of a fund for local purchases and triangular food aid operations in the Southern Africa region, as is the case in other regions of Africa.

Even if adequate food production and consumption (caloric intake) takes place in the country, the diet is not nutritionally balanced and lacks certain vital ingredients. These situations result from poor consumption habits, ignorance of nutritional requirements, lack of income to buy food etc. In such cases, the safety net should provide for the lacking ingredients. Meanwhile strategies to increase nutritional education, changing consumption patterns and increasing income should be designed to deal with this problem.

### Ensuring Food Security Over Time

In order to ensure against bad harvests, natural disasters and uncertain world food suppliers, adequate food supplies must be secured. The Governments should build up and hold reserve stock as well as setting up market stabilization mechanisms. However, holding stocks is usually expensive because of high storage losses, low capacity utilization and high cost of capital tied up in stocks. Probably the surest and cheapest way to achieve stability in price is through trade.



Both imports and exports can offset instability in domestic markets almost automatically. Imports, however, are most likely to destabilize the balance of payments of Tanzania. Apparently there is no simple solution to market stabilization. A regional (SADC) food stock could be cost effective. But both political and financial factors have constrained its implementation. One way of ensuring greater national food security is to improve the ability of the individual farmer to store grain effectively after harvest so as to avoid large food losses - now ranging between 10-20 percent of food grains. Long term planning for food security is impossible without a sound information system. Little attention has been paid to the systematic collection and analysis to the need for most basic information related to food.

## REGIONAL FOOD POLICIES AND STRATEGIES

### The Global Context

In terms of regional food security, there are a number of factors, which regional organisations such as SADC and EAC states should consider when it comes to international trade of food.

First, the instability of exchange rates and world prices for agricultural products particularly food imported by these countries could be a destabilizing factor. This reduces the potential for relying on the world market.

Secondly, it is risky to develop long-term food security strategies based on the continuous availability of cheap grain; should grain exporters change their export policies then world grain prices could become very prohibitive.

Third, food imports have a tendency of changing consumption patterns at the expense of domestic production. This is a threat to long-term food security particularly of the vast majoring of the region's rural population. However, in order to deal with short-term food shortages, which cannot be imported from within the region, SADC and EAC states can make use of the international grain markets as

a residual source of supplies.

The fourth factor is the shortage of foreign exchange. Many of the SADC and EAC states are constrained by inadequate foreign exchange to import food from international markets even at artificially low price due to dumping.

Fifth, trade restrictions in terms of tariff, levies and other restrains have restricted markets for many exports from developing countries. Trade restrictions do more than limit opportunities for developing countries to earn income; and they create unstable commodity markets and thus contribute to transitory food insecurity.

### Regional Food Security Strategies

A regional food security strategy is an integrated policy package that complements national efforts. At the national level the most viable and effective policy instruments to encourage farmers to increase agricultural production are prices, public investment, credit, training, location-specific research and extension. Only at the national level will these policy instruments have a grater impact on agricultural production than any that may be initiated at the regional level. However, at the regional level there is need to harmonize national agricultural policies and coordinate the rhythm of policy reform. Complementary regional food security strategy should include the establishment of regional reserves of food, regional information networks about food, the support of improved food production efficiency through regional agricultural research centres and intra-regional trade.

For a regional food security strategy to succeed at least four criteria must be met. First, a region should contain countries with a food surplus and those with a food deficit. SADC/EAC meet the criteria. Secondly, adequate storage, transport and communication systems should link the member states so that food can flow easily and cheaply between them. In the

SADC region this criteria in not well met. Transport and communication infrastructure is poorly developed. This hinders competitiveness of some of the best naturally endowed areas such as southern Tanzania and northern Zambia. Third, countries in a region must be undertaking economic and institutional policy reforms and substantially reduce the role of government in the economy. Fourth, and perhaps the most important and most difficult criteria, is that countries should have a high degree of political unity. However, agreement on economic policies in general, and food policies in particular and on emergency stock and on sharing financial burden, should facilitate for a regional food security strategy.

On this, SADC/EAC have a long way to go. In 1983 for example, a consultant was appointed to examine the feasibility of establishing a SADC food reserve. The study concluded that regional food stock was cost effective and economic. However the recommendations were not implemented mainly on account of financial and political factors (G.W.J. Almond *et al*, 1987).

It should also be noted that the SADC/EAC states are at differing levels of economic policy liberalization; those countries which have liberalized at a much faster pace feel very strongly that the playing field be levelled first before intra-regional trade becomes beneficial to all states. On the political scene, recent declines in war and conflict in Mozambique and Angola and the emergence of a democratic South Africa have improved substantially political stability in the region. This is a positive step towards regional food security. Other factors which have contributed to SADC's/EAC's food security initiatives are: the devastating drought of early 1990's and that of 1997 in some countries; the war in the Democratic Republic of Congo and the faster rate of population growth of 3.2 percent in the region which has exceeded the rate of economic growth of less than 2 percent and food production in particular.

## APPROACHES TO FOOD AND NUTRITION STABILIZATION IN TANZANIA

In Tanzania, climatic conditions particularly rainfall, vary periodically causing huge variations in food and other agricultural produce. The population of the country is growing fast and the HIV/AIDS infection is spreading fast. Over the last ten years structural Adjustment policies have been implemented and this process is still in progress. The political environment in the country has also changed after the introduction of multiparty democracy. In short the political economy of food security has somewhat changed. In view of these changes approaches to food and nutrition stabilization must also be reviewed.

### Strengthening Smallholder Organisations

As mentioned earlier agriculture employs 80 percent of the population and large proportions of farmers are smallholders. This calls for a series of actions to promote and strengthen smallholder farmer's organizations.

### Diversification of Activities

To the extent that food insecurity problems are generally tied to inadequate incomes of populations that still practice subsistence agriculture, increasing farmer incomes becomes necessary for simultaneously improving the availability of, and access to, food. Hence research efforts need to go beyond looking only at agriculture problems in isolation. There is need to concentrate on issues of capital formation and self-sustaining investment within agriculture. Future research needs to address the question of agricultural diversification in order to sustain the process of capital formation and self-sustaining investment. In particular, future research should focus on technology to increase productivity of rainfed crops and production of high value crop enterprises, the adoption of more productive agricultural technologies and development of markets.

### **Role of the Informal Sector**

The informal sector, which has special relevance for poverty reduction policies, is another component for income diversification. In order to improve the performance and profitability of the informal sector, there is need to advance strategies that focus on training, re-training, credit and the provision of supporting infrastructure. Rural poverty can also be reduced by the expansion of off farm employment. In Tanzania non-farm income is concentrated among better-off households. Off farm income is also a major income sources for women who dominate "traditional" female activities such as food preparation. Infrastructure development such as flood prevention, erosion control and particularly improvements of rural roads is the key ingredient in the expansion of rural markets and off-farm employment.

### **Off-Farm Activities**

Growth in labour productivity in agriculture will not provide increased income necessary to bring the poor out of poverty. The returns to labor are always higher in the service and manufacturing industries. In fact, as labour productivity in agriculture increases, labour leaves agriculture to seek employment or supplement incomes with other commercial or processing activities. Without the growth in agriculture, off farm activities do not emerge. At this stage, growth in agriculture is necessary to generate the resources needed to foster off-farm investment. Stable supplies of food, foreign exchange and financial savings are necessary to support non-agriculture development. Policies for development in the non-farm sectors should emphasize support for activities, which represent the first stages of off-farm diversification in a predominantly rural country. Small agroprocessing industries and services closely tied to agriculture in the villages and towns will be the first to prosper as the rural

community seeks to diversify and increase income.

### **Population Policy and AIDS Control**

Another approach to food and nutrition stabilization in the long run centres on the question of population. Population growth rates (PGR) are linked to poverty and food security. Compared to other regions of the World, the average population growth rate in Tanzania is considered high. Between 1962-1998 the average PGR was 3.1 percent compared to 0.8 for industrial countries and 2.2. for all developing countries. At this high growth rate, population in Tanzania will likely double from the projected figure of 30 million by year 2000 to 60 million by the end of the first quarter of the twenty first century. If no measures are taken to reduce the PGR the county will find it increasingly difficulty to feed itself, educate its children and expand labour markets for new entrants. Family planning, if well planned and implemented, will go a long way towards improving maternal and infant health care and thereby reduce fertility rates. Governments and NGO's should mount media campaigns and community based education programmes. If this is done, as evidence form Botswana and Zimbabwe have shown, contraceptive use will be high.

Apart from high PGR, Tanzania has some of the highest rates of HIV/AIDS infection in the World. This high rate of HIV/AIDS infection is related to high levels of poverty and food insecurity, at least in the short term. This is because AIDS takes heavy toll on the most productive age groups, thus leading to slow growth of per capita income. It also diverts financial resources away from food, health and welfare services towards medical and burial expenses. Education and mass campaigns on how to prevent the spread of this disease is required and the governments and NGOs have obligations to ensure this is done.

## The Role of Women in Food Security

Women play a central role in enhancing food security because most food producers are women; women support children through subsistence farming and informal sector; they are at a higher risk of suffering malnutrition during pregnancy and the nutritional status of women largely determines the status of their children. This calls for targeted efforts on the part of government and non-government organisations to design programmes, which will serve women better. Such programmes should help increase their productivity and removing constraints in their labour. A pragmatic approach would include the following: first, reorientation of extension by increasing the number of female extension workers; second, the recent land tenure policy should be implemented to ensure that women have the right to land; and credit systems.

## IMPACT OF MARKET LIBERALIZATION ON FOOD SECURITY

Structural Adjustment Programmes (SAPs) and its market liberalization component initiated since early 1980's have attempted to correct the negative effects of public sector intervention policies in the agricultural sector and the economy as a whole. On Agricultural and Food Policy, SAPs have adversely affected the performance of some public sector institutions such as research due to reduced budgetary allocations. Market liberalization policies may have increased food insecurity among the poor, more in urban areas through the removal of market wide food subsidies, and have increased costs of production to farmers after the removal of input subsidies. Due to poor physical infrastructure and lack of information system in some parts of the country the benefits of market liberalization have not been realized; instead things have gotten worse in most parts.

The number of suppliers to replace public marketing institutions has remained small and

has concentrated in areas close to the consumption areas. In remote rural areas with many net buyers of food, trade in grains has declined - thus increasing the food insecurity of people. It is generally agreed that the poor are at least partly dependent on markets for agricultural sales, food purchase and for wage labour, a dependency that will have to be increased in order to raise their income. In the absence of strong private traders, there is still a role for the public sector to play. This is the only approach to address food insecurity of the majority left out by liberalized markets. Even in those areas where commercialization of agriculture tends to respond to economic reforms, fundamental changes in social organization can lead to increase vulnerability. In a market economy, land and labour are also increasingly traded, possibly leading to large number of landless labourers and high unemployment. This calls for the development of mechanisms to address these negative impacts of economic reforms.

With the removal of market wide subsidies, targeting resources can help reduce food insecurity cost effectively. However targeting requires one to know whom the food insecure are. This information is not readily available. Targeting by income is difficult because of lack of social security systems. In addition, economic measures of income may not be good indicators of individual's food insecurity because in many places there are traditional social arrangements for reducing food insecurity. Targeted food programmes have other potential problems. First, they require more managerial capacities and efficient bureaucracy, both of which are lacking in Tanzania. Second, they take considerable time to implement because necessary institutions have to be set-up, staffed and made operational. Third, targeted programmes that benefit only the vulnerable must have political support for sustained implementation because the vulnerable generally are not a very effective

political force. Lastly, these programmes may jeopardize the long-run goal of making every individual productive. With all these problems, targeted food programmes (except for famine) are almost impracticable. Nevertheless it is an approach, which could be used to target the typically vulnerable groups, namely, the young children, women and youth and the elderly.

The key issue here is to monitor adjustment operation and ensure that economic adjustment does not worsen the food insecurity and malnutrition of the vulnerable groups. Realistic tradeoffs between adjustment and food security are necessary in the short run. The challenge is to promote long-term economic growth while protecting the short-term food security of those at greatest risk.

#### FOOD SHORTAGE: MONITORING AND PREPAREDNESS

Climatic changes contribute to severe food crises. Over the last two decades Tanzania has experienced a number of acute food shortages caused by drought and floods or excessive rainfall. Handling natural disasters that cause food crises is a process with four stages. These are warning, decision, response and rehabilitation. The Early Warning System (EWS) is in place. An EWS should collect data on climatic conditions; yield forecasts, markets, food prices and pest invasions. Coordination of EWS within SADC member states is crucial in order to minimize food shortages. The next important move is decision making which needs strong management on the part of institutions handling relief. They should be able to provide on-site assessment of emergency relief so that short-term famine relief and long-term development policies are coordinated. A third stage concerns logistical infrastructure. Food has to be moved to the recipients by road, railway or water. Should these routes fail, and then contingency plans should be available. Lastly, one disaster can lead to cumulative

disasters and further requirement for disaster relief. For example food crises are usually accompanied by health problems. Health risks increase with reduced dietary intake. In drought prone areas access to safe water is also reduced thus affecting the health and nutritional status of people particularly children. Public action groups can and should play a key role in preventing these adverse health effects.

More than often, Tanzania has not been able to cope with such crises without donor support through food aid. But even when food aid is provided the capacity to distribute it is inadequate. There is little logistical infrastructure for the delivery of relief supplies, capacity to coordinate the overall relief effort and the capacity in rehabilitating services such health, education, water and sanitation facilities. The capability to reconstruct services such as physical infrastructure is equally inadequate. No long-term progress can be made against food insecurity caused by climatic disasters without the machinery in place to record and diagnose stress signals and to organize swift and effective measures to such signals. There is need therefore to establish and strengthen relief and rehabilitation agencies.

#### URBANIZATION AND FOOD INSECURITY

I ncreasing population and low agricultural productivity have resulted in increasing urbanisation. Available statistics show that the proportion of total population living in urban areas has increased from 20 percent to 25 percent over the last decade. The major causes for migration to urban areas are many but they are all related to low productivity in the agricultural sector, inadequate off-farm activities in the rural areas and inadequate economic and social services. Also highly unrealistic expectations on the part of the rural poor about employment opportunities in urban centres also contribute to rural urban migration. Peri-urban low income and slums areas are generally the fastest growing areas. Most of the poor live in

these areas. This urban poverty is primarily concentrated in squatter areas.

The urban poor differ from the rural poor in two key aspects. First, agriculture contributes little to urban incomes. As a result, virtually all-urban households are net purchasers of food and hence are highly subject to effects of changes in market prices. Second, the consumption patterns and hence expenditure shares may differ as between rural and urban areas.

Under the ongoing policy reforms the urban poor have also been hurt. Food subsidies have been removed; education and health services are no longer free although they are heavily subsidized.

Urban poverty can be addressed at the national and local levels. At the national level policies to increase productivity of the agricultural sector and expand off-farm employment, may reverse the trend of rural urban migration and hence urban poverty. Also policies leading to the growth of the economy in general and the industrial and service sectors in particular are likely to generate urban employment and raise urban income. However, it is at the local level where urban poverty can be addressed in the short term. At the local level there is need to identify and strength complementary elements between policy measures, local regulation and communal self-reliant activities and the survival strategies of the urban poor. The role of grass-root organizations is key to the eradication of urban poverty. Public institutions should form partnerships with such organizations.

A number of policies and programmes can be put in place to address food insecurity of the urban poor. Some of these we have already addressed. These include targeted food price subsidies and food for work programmes. However there is a now a general belief that urban agriculture can provide additional foods with greater variety for urban low incomes households. Urban agriculture can contribute to environmental sanitation through urban

waste conversion and putting vacant lands in use. Government policies and regulation on urban land use are often too restrictive for urban agriculture.

Another food related activity, which can help reduce food insecurity of the urban poor, and which is normally subject to a hostile government regulation is street food vending. It is a source of low-cost and some times nutritious foods and of employment for low-income urban households, particularly women. It should be promoted and supported by improving to improve the sanitary conditions.

#### CONCLUSION

The key to food security policies and strategies is to improve the cost effectiveness of all the measures, which are taken, and to prioritize the measures in short term and long-term perspective. In discussing food strategies, the debate should focus on policies rather than on projects. The Challenge is to identify alternative cost effective policies to reduce food insecurity. The challenge is also to look beyond expanded food production because this will not automatically ensure food security to all people.

Food insecurity is linked with poverty and lack of productive employments. Consequently appropriate measures to combat rural and urban poverty are key to the reducing of food insecurity. Only micro-level actions can be taken to address poverty and food security.

Within SADC it is important to distinguish between national and regional strategies. At the national level, pricing policy, public investment, credit policies and locational specific research and extension are the key policy instruments to reduce food insecurity. At the Regional level focus should be in those strategies, which complement National strategies. These include strengthening national capacities to undertake policy analysis improve regional infrastructure, Early Warning System and above all expand regional trade.

Location specificity, cultural diversity, and availability of resources coupled with the wide range of different food security problems make it impossible to specify just one, optimal set of policies for improving food security. Specific programmes typically affect more than one category of risk. Multi-faceted economic strategies leading to economic growth are therefore a pre-requisite. The approach should aim at promoting economic growth so as to improve household incomes as well as generating larger fiscal base for public support. The policy environment should provide incentives for employment generation, income distribution, health care, education and social assistance in order to reduce poverty and mediate risks that are exogenously imposed by factors such as drought. What mix of policies to implement will obviously depend upon what risks are considered the greatest, coupled with an assessment of the public or the private capacity to deal with them.

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