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FOOD SECURITY AND AGRICULTURAL MARKETING IN ZAMBIA

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1. Introduction

With a land area of 752,614 square kilometres the Republic of Zambia has an estimated population of eight million people (CSO, 1990). About 42 percent of the people live in a relatively highly industrialised and well developed agricultural zone which lies in the central region of the country and along what in Zambia is referred to as the old line of rail (Livingstone- Lusaka- Ndola- Kitwe). The remaining 58 percent of the population resides in thinly populated rural areas (estimated at 2 persons per square kilometre scattered about all over the country). Because of its unique population distribution, Zambia is rated as the most urbanized country in black Africa.

Because of the demographic characteristics and the duality in the economic structure, the social structure is highly stratified. Unofficial (but reliable) figures show that over 70 percent of the Zambians are considered be living below the poverty datum line. This is in contrast to about 2 percent of the Zambians who live in urban areas, who are extremely rich, even by world standards.

Economic disparities between rural and urban areas are clearly distinct. Urban areas on average, have relatively better welfare facilities than rural areas. Rural areas are economically depressed and receive meagre second-class welfare facilities. Rural Zambians generally live far from centres of government and, for most of them, the source of livelihood is the production of food or fibre crops or husbanding of animals that are adapted to local soils and climatic conditions. In most cases, the productivity of these crops and animals is abysmally low. For this reason, rural households have low incomes and malnutrition and seasonal famine is a constant fear and frequent reality. Income estimates for traditional farmers suggest that cash earnings are about half the annual cash receipts of farm workers. Such income differentials cause traditional farmers to want to become farm workers and, in turn, cause farm workers to seek non-farm work in urban areas. Therefore, the demographic composition of the periphery is markedly distinct from that of the modern industrial and commercial sector, because of sustained out-migration (ILO, unknown date:12). In rural provinces such as the Northern, North-western and Western provinces, for instance, there is a high proportion of households that are headed by women due to migration of males to urban centres.

The Zambian economy is predominantly export oriented, with copper and other metals (zinc, lead and cobalt) earning about 95 percent of the nation's foreign exchange. Fluctuations on the world metal markets strongly influence the economy. Today, Zambia is facing serious economic and financial difficulties. These difficulties started in 1975 when the copper prices declined sharply. By 1984, copper prices were about 60 percent lower than they were in 1974. Zambia's difficulties were exacerbated by long liberation wars in southern Africa, rising oil prices and the poor performance of the other sectors within the Zambian economy, such as the agricultural sector.

In an attempt to revitalize the sagging economy and reduce the socioeconomic disparities between the rural and urban areas, the Government of the Republic of Zambia (GRZ), tried to restructure the economy away from mineral dependence. Agriculture was then recognized as an essential base for national economic restructuring. Since the mid-1970s, agriculture has been accorded "priority of priorities".

Despite its recognition by GRZ as a leading sector of the Zambian economy and the high priority it has been accorded, the performance of the agricultural sector is still far below its potential. As a result of the poor performance of the agricultural sector and the economy as a whole, many households in Zambia face food security problems. To talk about food security in Zambia, one needs to examine factors that influence it. Factors such as household income, food production and distribution.

2. Food security

The concept of food security and the means of its attainment have many interpretations. For instance, at the 1974 World Food Conference in Rome, attainment of food security referred to the assurance of adequate food supplies. In recent years however, the concept of food security has acquired a broader meaning. The broadest definition of food security, which constitutes the various elements discussed in the literature and adopted in this paper, is summarized as the ability of a country, region, or household to meet target consumption levels on a daily basis in the face of fluctuating production, prices and incomes.

According to this definition, the meaning of food security has been broadened in the sense that it also stresses the need to maintain consumption of essential (i.e nutritionally adequate foods) at acceptable levels by all sectors of the population (Roumasset, 1982). Thus, the current meaning of food security incorporates both supply (availability) and demand (accessibility). In addition, this definition helps to classify sources of food security according whether they affect the price, the household's production, or the household's income.

In the literature, three main levels of food insecurity are discussed:

(1) Village or Household Level

- ability to grow food constrained by technical exigencies such as unfavourable climatic conditions, disease and insect attacks, etc.;

Table 1: Zambia gross domestic product at 1990 prices

	1985	1986	1987	1988
Total GDP (k'000)	7,071.9	12,363.1	19,778.4	27,724.9
Agriculture, forestry & fishery contribution (K'000)	925.2	1,577.8	2,180.4	4,668
Percentage	13.1	12.2	11	16.8

k = kwacha
Source: National Commission for Development Planning (NCDP), 1990

- inadequate rural incomes and inability to purchase food; and
- inadequate market and transport systems to move food from surplus to deficit areas within the country.

(2) National Level

- Population growth outstripping food production increases;
- inadequacy of distribution facilities;
- inequities of supply-distribution between urban and rural areas;
- development priorities do not include food production and distribution;
- fluctuations in food import bill due to fluctuations in production;
- international debt and balance of payments problem - national budget deficits; and
- reliance on food aid and creating tastes for imported grains.

(3) International level

- Imbalance of food production (eg. domination of North America and Australia in wheat exports);
- lack of commodity or effective fora for price stability (eg. the collapse of the Wheat Agreement talks in 1979);
- lack of coordination of national and international stocks for world grain stabilisation;
- lack of financial assistance to emeliorate fluctuating import bills; and
- trade barriers.

It can be seen from the list of factors above that food security issues are a function of, and depend on, the general level of development of a country at all levels.

Several approaches have been suggested to cope with food security problems in countries like Zambia. In the long-run, food security can be attained by developing agricultural and industrial productivity. Improved productivity should increase food production and lead to widespread increases in incomes, particularly among the poor. Higher incomes will have to come primarily from increased productivity and profitability of agriculture, from the development of industry, from employment in construction and public works and from the generation of the diverse services that will be in demand as rural areas become prosperous.

In the short-term, food security can be attained through managing food supplies, including imports and food aid. The major approaches that are often mentioned to alleviate short-term food security problems at national level include: (a) stockpiling of food grains at national and international levels; (b) financial food facilities; (c) food aid; (d) improving trade policies; and (e) intervention in the capital market and the pricing and distribution of food for vulnerable groups.

3. Household income

As alluded to earlier, both rural and urban households in Zambia today have incomes that are far below the official wages. As one might expect in a country where per capita income has decreased from more than $700 in 1981 to about $250 in 1990, food insecurity- as measured by the large numbers of people who do not have regular access to adequate levels of food - is a serious problem in both rural and urban Zambia and, even more disquieting, is getting progressively worse.

Availability of food at the national level is not the primary problem. It is clear that, even with present production technology, Zambia is capable of growing enough (except in the worst drought years) to provide its eight million people with sufficient food. Production of maize (the main staple) grew at an 8.5 percent annual rate between 1974 and 1989.

The problem is *access* to that food by low income households in the towns and in the countryside. A large portion of Zambia's poor cannot command food resources because they cannot afford to purchase the food they need at prevailing prices. The monthly cost of a nutritionally-adequate diet for the average poor family in Lusaka has increased 46-fold (in current kwacha) since 1975.

Since wage rates and the size of the urban labour force have both stagnated or even declined during that period, the result has been a greatly decreased capability for wage earners in poor households to provide adequate nutrition for their families.

In the rural areas, small farm households in the more remote provinces are not able - because of their low per capita productivity - to grow enough food to provide for their households through out the year. The two-to-three months prior to the harvest are a period of significant nutritional deprivation for an increasing number of Zambian farm families. This is particularly true for female-headed households, which in some areas constitute 20 percent or more of farm households.

Table 2: Growth of agricultural production in Zambia (percent per annum)

	1970-78	1978-83
Food	3.0	NA
Non-Food	0.9	NA
Subsistence	1.7	-0.8
Commercial	4.8	2.4
Total Production	2.8	0.4

NA = Not Available
Source: World bank, 1988

To make things worse for the rural dwellers, most food storage facilities are located in urban centres. This means that even when they can pay for the food, it may not be available. Because of distributional constraints in rural areas in Zambia, rural food security is largely a question of food self-sufficiency.

4. Performance of the agricultural sector in Zambia

The recognition that agriculture must replace mining as a leading sector of the Zambian economy led GRZ to take various measures to improve agricultural policies and institutional performance. However, despite the steps that were taken and the high priority that it was accorded, the performance of the agricultural sector is still far below its potential. For example, agriculture only accounts for about 12 to 17 percent of the gross domestic product (GDP), the highest being in 1988 (see Table 1).

Estimates by the World Bank (1984) indicate that real overall growth in agriculture averaged 2.8 percent per annum during 1970-1978, which although high by east African countries' standards, was below potential. Much of the registered growth came from the commercial sub-sector which was responding to improved price and tax incentives introduced by the Government. Growth in the traditional sub-sector was virtually stagnant, about 0.4 percent per year over the same period (see Table 2). Since 1990, however, the situation has deteriorated, due to poor rains (1991/92 being the worst season in living memory).

In the light of a deteriorating food situation under conditions of rapid population growth (estimated at 3.8 percent per year), Zambia is faced with the challenge of how to provide adequate and reliable food supplies to all sectors of the population. Consequently, attainment of self-sufficiency in food production became a clearly enunciated and major policy goal of GRZ. The arguments for food self-sufficiency emanates from the geopolitical position within which Zambia finds itself.

In other words, Zambia has two major geographical disadvantages. First, the country is land locked with a long distance (1,500 to 2,000 km) of communication lines to the coast. Second, there is a large internal regional imbalance between a well developed industrial and agricultural zone which lies in the central region of the country and along the railway line, and the periphery north and south of the central region. Like many other African countries, the Zambian Government linked the goal of achieving food security to the goal of food self-sufficiency.

The ultimate objective was to be self-sufficient in the production of major food crops, such as maize and wheat, so that incremental food demand could be met by domestic production. The belief that food selfsufficiency could improve Zambia's food security was based on the argument that Zambia, with its enormous agricultural potential (physical resources base), was susceptible to fluctuations in international trade and that susceptibility could be reduced by decreasing food imports (World Bank, 1984).

5. Food grain production and distribution system

To be able to have a clear understanding of the strengths and weaknesses of the food grain production and distribution system in Zambia, in the context of food security, requires a brief examination of the structures of production and distribution.

5.1 Present structure of the agricultural sector

At independence, Zambia inherited an economic structure that was dualistic in many ways. Basically, there were two widely divergent agricultural systems: the European and the African, caused by the colonial government's policy of separate and unequal treatment.

The agricultural system that exits today is still dualistic, with a relatively small but well developed large-scale commercial farm sector, in the area along the old-line--of-rail and in parts of the Eastern Province; and a much larger traditional (subsistence) sub-sector scattered over the country, a characteristic of the colonial legacy. Although the dualism is still present, it has become less marked with the emergence of an increasing group of small-scale commercial farmers.

In Zambia, there about 600,000 farm households that produce food. These include about 500,000 traditional farmers, 94,000 emergent farmers, 5,300 mediumscale farmers and 700 large-scale commercial farmers. These food grain producers are scattered over large areas all over the country. For this reason, the marketing of these food grains involves a large number of transactions and participants.

As can seen from the above discussion, traditional producers constitute the majority of contributors to the the food grain production system in Zambia. It is estimated that they cultivate an average of two hectares per farm household, using family labour and simple hand tools. Lack of cash incomes, appropriate technological packages and irregular supply of farm inputs precludes them from regular use of purchased inputs.

Land among traditional farmers is generally held in common with inherited usefruct rights. Such land tenure systems makes it virtually impossible for small--scale farmers to have access to agricultural credit. Land tenure arrangements are important to agricultural development for three main reasons. They determine: (a) peoples' access to land a resource, and hence, their income earning opportunities; (b) in part, the type and extent of investment in agriculture by farmers and; (c) whether land can form adequate security for borrowed funds. Hence, land can facilitate or hinder the administration of agricultural credit in a country.

Maize, sorghum and millet are the principle food crops produced by traditional farmers. Therefore, the existence of such a large traditional sub-sector, most of which is yet to produce for the market, represents a huge albeit potential food source, which if mobilized with appropriate technological packages, can improve food security in Zambia.

5.2 Food Grain Distribution System

The food grain distribution system in Zambia is comprised of various participants and numerous exchange points where physical functions of marketing such as assembly, transportation, standardization, storage, and processing are performed. This section attempts to describe the stages of the food grain marketing system in Zambia in the context of food security.

The food grain marketing system in Zambia ranges from the simple exchange between households at the village level, to the movement of the grain from rural areas to urban areas. The characteristics of the grain marketing system are highly dependent upon the structure of production. Production of food grain takes place in varying amounts depending on the type and size of the farm.

Maize and wheat are the major food crops in Zambia, particularly in urban areas where they constitute the preferred cereals, while sorghum and millet are the principal food crops in rural areas where maize production is technically less suitable. Therefore, the following account of the organization of the food grain distribution system in Zambia relates only to these four food crops.

In general, there are two basic ways of marketing food grains in Zambia. First, the grain can move through official channels, normally through monopsonistic parastatal agencies. These are semi-autonomous public sector entities, working through several official agents.

Second, food grains can move through unofficial private market channels. In the literature, the distinction between "official" and "unofficial" market channels is not that clear. However, in this paper, the following definitions of the two terms are adopted. The official market channel will include all the public organisations, private sector firms and individuals who are authorised to engage in marketing food grains and who trade in conformity with the official price structure.

In this regard, official trade involves authorization or licensing, and conformity with official prices, if any. On the other hand, an "unofficial" market includes private merchants who operate without government authorization or official marketing licenses as well as some private sector firms and individuals who are licensed to operate as part of the official market channel, but who purposely do not conform to the official price structure.

In Zambia, as already indicated, there are four dominant food grain producers: (1) small holder farm producers; (2) emergent farm producers; (3) commercial farm producers; and (4) corporate farm producers.

In general, corporate and commercial food grain production systems (i.e parastatal and commercial farmers) find it easier to sell through the official channels, immediately after harvest, due to their large size of operations and their better accessibility to information and other market infrastructure services. For this reason, their decisions clearly affect urban, more than the rural consumption.

On the other hand, traditional food grain production systems, theoretically, have both public and private sector sales options. They can also enter into some barter trading, as well as keeping some grain for own consumption.

The decision to barter depends in part on the total amount of production, the consumption substitutability of the goods involved in the transaction, and the relative terms of the exchange. Thus, the decision on how much to retain for home consumption affects household food security. In Zambia, because of GRZ's pricing and marketing policies, house trade and other forms of unofficial trade for food grains (specially maize which enjoyed the status of a strategic food item) were discouraged. This exposed rural households to food security problems because it became virtually impossible for them to obtain food locally.

6. The official food marketing system

The development of the official food distribution system in Zambia can also be traced back to the colonial period. Historically, the end of colonialism left behind a large bureaucratic apparatus and a heritage of numerous institutions aimed at solving national problems. To some extent, this led to a syndrome of dependency toward the state in terms of free (or subsidised) services and goods (such as marketing, input delivery, mealie meal, and fertilizer) with major post-independence consequences (World bank, 1984).

Following independence in 1964, the state offered the best instrument for achieving the sociopolitical goals of economic freedom and control over the nation's destiny as well as the individual desires for material gain through rapid career advances in an expanding public sector. The tendency to view the state as the primary instrument of development was, no doubt, strengthened by not only the inheritance of a weak indigenous private sector, but also by the political struggle for control of the economy (IFAD 1983). The fact that the colonial government had played a highly interventionist role in some sectors such as agriculture and transport, gave impetus to the new government's interventionist tendencies in the post-independence period. The major form of such intervention was the establishment of public or state owned enterprises or parastatals. (It is established that there are 47 parastatals and government supported Provincial Cooperative Unions operating in the agricultural sector alone). Despite the high degree of state participation in the food marketing system the performance of the parastatals and the cooperative unions, when evaluated on the basis of the objectives they were created for their performance has been unsatisfactory.

A number of problems have been identified and link the poor performance of the food marketing system to the

government's interventionist policy. Important among these are:

6.1 A complex distribution and pricing system

The development of a complex distribution and pricing system in which twelve parastatal organisations and nine government supported Provincial Cooperative Unions play a dominant, and in some cases, an exclusive role. In the process of evolving this complex marketing system, it has become apparent that the Government, with good intention, has tended to emphasize institutional creation and changes. These have had a lasting effect on the country's food security situation.

The creation of the Grain Marketing Board (GMB) (1964-69), which was charged with the responsibility of implementing a government administered price system, serves as an illustration of the government's preference for public institutional intervention. Under the administered price system, purchase and selling price for different grains were determined for the Board by the Ministry responsible for agriculture, around a "price stabilization fund" for each controlled commodity. Over the same period (1964-69), another parastatal (the Rural Marketing Board) was created. It had similar functions to the GMB, but operated in remote districts and provinces away from the line-of-rail.

Both of these organization experienced financial problems which made them increasingly ineffective. In 1969, the two Boards were amalgamated into the National Agricultural Marketing Board (NAMBOARD).

6.2 Controlled price system

The system of controlled price system which caused a number of distortions in the economy. Examples of the problems associated with these distortions are abound. Pan-territorial pricing for example, is blamed for having made it virtually impossible for the private sector to operate in food marketing due to lack of economic incentives. This situation has arisen mainly because although parastatals and cooperative unions have had no legal monopoly in marketing of food commodities, the controlled pricing system resulted in marketing margins which were insufficient for the unsubsidised private trade to compete. As a consequence private trade in Zambia has effectively remained undeveloped.

Uniform countrywide pricing has also been the cause of encouraging production of crops in some parts of the country which are technically not suited. Thus agriculture became uncompetitive, which in turn reduced productivity.

Pan-season pricing on the other hand, is said to have made it unprofitable to store food crops on farms, encouraging farmers to sell immediately following the harvest, thus overburdening the buying, transport, and storage facilities of the public marketing agencies. This resulted in a lot of food going to waste because of poor handling facilities, hence, reducing the already low output.

6.3 General food subsidies

The large general (i.e untargeted) food subsidies which became unsustainable created a number of distortions in the economy. Firstly, the producer and consumer subsidies which kept the consumer prices artificially low, encouraged smuggling of essential commodities to neighbouring countries.

Secondly, the level of unit-subsidy necessary for the public marketing institutions to break-even rose consistently over the years that the marketing subsidy constituted a very high proportion of government expenditure.

In response to the poor performance of the food production and marketing system, GRZ has implemented a number of policy changes in order to improve the system's performance. Ideally, GRZ's intention for the reform in the food system is aimed at ensuring household food security while minimising budgetary costs. For this reason, there has been a commitment to a degree of public service retrenchment; price reforms have been implemented with the decontrol of all prices with the exception of maize-meal from July 1989; and the Fourth National Development Plan (FNDP) contains the stated intention to encourage competition and the participation of the private sector: Non-viable state enterprises are having their activities phased out, and the remainder are subject to increased competition, both from abroad and from the domestic private sector.

To show its commitment to these reforms, NAMBOARD was abolished in June 1989, and its marketing functions transferred to the nine provincial cooperative unions, whose costs will be subject to stricter controls.

Furthermore, to improve the food security situation, GRZ has taken steps to attack these issues through policies and programs aimed at: a) increasing national food production; and, (b) establishing early warning and food security units in the Ministry of Agriculture intended to ameliorate the adverse impacts of droughts, within the context of the SADCC regional early warning and food security networks. These are important and laudable achievements. More is required, however, if the food security and nutrition status of the urban and rural poor are to be kept from deteriorating further.

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