

# **VULNERABILITY AND RESILIENCE OF RURAL SOCIETY IN ZAMBIA: FROM THE VIEW POINT OF LAND TENURE AND FOOD SECURITY**

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## **ABSTRACT**

The paper shows that pre-colonial ecologies of agricultural systems in some parts of rural Zambia were sustainable and resilient to prevailing environmental conditions, and were therefore able to ensure relative food security, under communal land tenure.

However, colonial policies of land alienation and labour migration impacted negatively on food production systems of some ethnic groups like the citemene system of the Bemba and the flood plain cultivation system of the Lozi, making them extremely vulnerable due to the absence of large numbers of males. Paradoxically, the Tonga people in Southern Zambia responded positively to the introduction of modern methods of cultivation, exhibiting resilience by adapting and adopting the cultivation of hybrid maize and the ox-drawn plough. They also began to transform their land tenure system from being communal to become increasingly individualised.

At independence in 1964, the UNIP government intervened strongly in promoting rural development (1964-1990), by subsidising maize production and by implementing protectionist policies to maintain communal tenure. However, food security could not be guaranteed, and the policies led to over dependence of small-scale farmers on government and on maize at the expense of other food crops.

The introduction of neo-liberal policies (from 1991 to 2001) by the MMD government coupled with adverse weather conditions, made food production systems rather vulnerable to both policy and environmental shocks. However, efforts are being made (from 2001- to date) with the assistance of cooperating partners or the international community, the United Nations System and Non Governmental Organisations (NGOs), to continue with land tenure empowerment policies to ensure secure land tenure for both men and women, and make targeted interventions with partial subsidies to rebuild the resilience of rural society, so as to promote national and household food security.

**Key Words:** Vulnerability, Resilience, Land Tenure, Food Security

## 1.0 INTRODUCTION

This paper attempts to discuss the issues of vulnerability and resilience of rural society in Zambia in the context of land tenure and food security, from a historical perspective. The discussion is accomplished through the review of literature.

According to Adger (2006), “vulnerability is the state of susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt” (Adger, 2006, p. 268).

Adger (2006) states further that current research shows that there are multiple stressors and multiple pathways of vulnerability. He goes on to state that key issues in vulnerability research is to understand the stress to which a system is exposed, its sensitivity or response of the system and its capacity to adapt or capacity for adaptive action. In this regard, adaptive capacity is the ability of a system to endure in such a way as to be able to accommodate environmental hazards or policy changes.

In discussing vulnerability to food insecurity, Adger (2006) is of the view that there is need to note that food insecurity is a consequence of human activity (including production, assets or reciprocal arrangements), which can be prevented by modified behaviour and by making appropriate political or policy interventions.

Eakin and Luers (2006) are of the view that “in its most basic sense, vulnerability conveys the idea of susceptibility to damage or harm”, and deals with a “sensitive exposure and sensitivity to stress and its capacity to absorb or cope with the effects of these stressors” (Eakin and Luers, 2006, p.366). It is further stressed that in the final analysis “vulnerability is fundamentally a relative concept concerned with issues of social justice, equity and opportunity” (Eakin and Luers, 2006, p.367).

Social vulnerability is defined as “the exposure of groups of people or individuals to stress as a result of the impacts of environmental change” (Adger, 2000, p.348), and involves the disruption of livelihoods, forced adaptation to changing physical environment and loss of security.

Kodamaya (2007) is of the view that although the concept of vulnerability has been used in many different research traditions, there is no consensus on its meaning. However, the concept generally refers to the exposure of groups to stress due to the impacts of environmental change. Such shocks invariably lead to the disruption of livelihoods and loss of security. On the whole, response to vulnerability is “to reduce exposure, enhance coping capacity and strengthen recovery potential” (Kodamaya, 2007, p.35).

While vulnerability is exposure to stress, resilience on the other hand is a somewhat positive concept, as it refers to the capacity for adaptation to emerging circumstances. In this regard, social resilience may be defined as “the ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change” (Adger, 2000, p.347).

This paper, therefore, attempts (in Section 2.0) to reconstruct some pre-colonial and colonial ecologies of agricultural or food production systems, in order to have an impression of types of land tenure, and food production systems, and the environmental and policy stresses to which they were subjected. The paper further attempts to show how vulnerable or resilient these systems were with the imposition of colonial rule and how they responded to policy and environmental shocks after the attainment of political independence on October 24, 1964.

The reconstruction is based on the chronicles of European travelers and also through reference to the surviving agro-ecological systems that were documented on the eve of colonial rule, by those who can be categorized, as Africanist colonial scholars, such as anthropologists, ecologists and agricultural scientists.

Such reconstruction has facilitated an assessment of the impacts of colonial (in Section 3.0) and post colonial policies (in Section 4.0) on land tenure and food security, showing whether the indigenous systems were vulnerable or were able to adapt and exhibit resilience.

In viewing the situation in the post-colonial period, an effort has been made to first focus on the institutional arrangements between 1964 and 1990 (Section 4.1) during the rule of Dr. Kenneth Kaunda and the United National Independence Party (UNIP). During this period, the state played a pivotal role through institutional arrangements to intervene in agriculture and regulated land tenure. Thus, an attempt has been made to assess the impact of this strong role by the state on land tenure and food security especially in relation to small holder agriculture in rural Zambia. The paper then assesses the impact of the neo-liberal policies (Section 4.2) that were introduced from 1991 to 2001 during the rule of Dr. Frederick Chiluba and the Movement for Multi-Party Democracy (MMD), on land tenure and food security. This period saw the introduction of privatization and agricultural market liberalization, which aimed at restructuring the Zambian economy so that it could be market based and be led by the private sector. Thus, the paper attempts to assess the impact of such a policy shift on land tenure, agricultural policy and the status of food security in rural Zambia.

The assessment also covers the interventions that are being made by the New Deal Administration (Section 4.3) of President Levy Patrick Mwanawasa (of the MMD), and refers to the issue of the need to craft a national land policy that can help to reduce vulnerability and rebuild resilience of rural society in terms of future tenure arrangements and food security.

In this paper, land tenure is defined as “the rights of individuals or groups over arable, grazing and residential land, how such rights are acquired, what they consist of, how they operate in the holding, transfer and inheritance of land and how they may be extinguished” (White, 1957, p.172).

On the other hand, the Food and Agricultural Organization of the United Nations (FAO) has defined food security as a condition “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO, 1996, p.7). Thus, the paper deals with relative food security and rights in land in Zambia in the historical perspective.

## **2.0 PRE-COLONIAL ECOLOGIES OF AGRICULTURAL SYSTEMS**

A reconstruction of pre-colonial society in Zambia in order to establish the status of land tenure, food production systems and the agro-ecological conditions upon which these were based, so as to know whether such societies were vulnerable or resilient to environmental or policy (colonial) shocks, is not an easy task. However, an appreciation of past conditions may be achieved through an evaluation of comments and recorded observations by other writers, scholars and even travelers.

### **2.1 Pre-Colonial Land Tenure: A General Overview**

The type of land tenure that was most prevalent in pre-colonial sub-Saharan Africa in general and Zambia in particular, is what scholars have characterized as communal land tenure. In this type of tenure, individuals in various communities had free access to what is now known as common property resources (IFAD, 1995), especially land, forests, rivers, fisheries and wild life. These common property resources were vested in the traditional leaders known as chiefs and even kings and queens.

As long as an individual was an acceptable member of a community in a chiefdom, he was allowed to clear land for a field and for settlement. Such an individual however, did not own the land, but enjoyed its usufruct (Kay, 1964). The same applied to the chief. He/she did not own the land either, but held it in trust for his people. The land was owned corporately by the community as a whole (July, 1975; Yudelman, 1964).

The perception of land and other natural resources as common property was buttressed in traditional values and what seemed to be a respect for nature, in as far as low population density and technology level did not cause major disruptions in the man-environment relationship.

In terms of production, individuals as members of specific households, were free to cultivate the land that they had cleared, hunt, catch fish, extract timber for constructing their huts, harvest honey, trap rodents, graze their animals and gather wild fruits, mushrooms and other non-timber forest products. These activities were undertaken by individuals in order to meet the needs of subsistence or livelihoods and reproduce the groups.

During that time, it was assumed as Yudelman (1964) argues that nobody in the community was to be without land, and land did not naturally have a market value since these were pre-industrial societies. The abundance of virgin land and low population densities ensured that the land resources could be accessed by individuals without any or much restriction. Each household was responsible to meet its own needs of subsistence or livelihood, but weaker members of society, the infirm, widows, orphans and visitors benefited from the operation of social capital in terms of redistribution and sharing of food, and game meat, fish, beer and food between relatives.

With respect to gender relations over land, Women and Law in Southern Africa (WLSA, 2001) observes that land was broadly communally held in most of pre-colonial Southern Africa, and was allocated to male heads of the families, but women enjoyed usufruct rights over such land in their various capacities as wives, daughters or nieces. Women were not allocated land and did not inherit it in their own rights, especially in patrilineal systems such as Ngoni of Eastern Zambia, where land belongs to men directly, but were granted access to land through marriage.

In the matrilineal systems, women’s rights to land were ensured. This was the case among the Bemba, Luvale, Lamba and Tonga in Zambia. Among the Lozi, a daughter was given land by her parents and her husband, but retained rights in land in her own village (Keller et al., 1990, p.242).

Manuh (1989) is of the view that the usufructuary rights in land which women held in most parts of pre-colonial Africa, could be exercised when they were single, during marriage, upon divorce or widowhood; and women could inherit land and pass it on to their children.

Married women whose husbands stayed in the wife’s village (uxorilocal residence as per custom in the matrilineal groups), were able to acquire and own land over which their husbands had no rights or control. This land was obtained from their matrilin , although husbands could also give them plots of land.

Therefore, although men were considered as heads of household and played a dominant role in politics in most societies, “women had access to productive resources and were able to contribute effectively to the food self-sufficiency of their communities” (Keller et al., 1990, p.243).

It can be argued that although these pre-colonial societies were vulnerable to the vagaries of weather (since agriculture in the sub-tropics is rainfed), to locust invasion and inter ethnic conflicts, they nonetheless exhibited a semblance of resilience and (rural) people enjoyed relative food security at the level of subsistence.

It should be noted however, that pre-colonial society was not stagnant. Land tenure and social relations were not static but dynamic (Mvunga, 1980). While communal land tenure was probably the original mode of how individuals and communities related to land and other natural resources, it underwent gradual modifications with the passage of time, and especially with increase in population and changes in technology (such as the role of iron implements), changes in land usage and political relations (Kajoba, 2002).

Thus, it may be argued that in some societies in Sub-Saharan Africa (including Zambia), land use and land tenure have undergone an evolutionary transformation from the simple to the complex. This transformation involves the emergence of different land use systems from shifting cultivation to semi-permanent and even permanent forms of cultivation, involving crop rotation, use of cattle and green manure, flood plain cultivation and the incorporation of root crops that facilitated continuous cultivation and permanent settlements (Pritchard, 1979; Schultz, 1976; White, 1959).

With respect to tenure, communal tenure in some parts of Africa evolved to include lineage and more complex semi-feudal to feudal systems (Gilks, 1975), where there was more tight control of land by members of a particular lineage and by ruling groups. In these systems, certain people were excluded from easily accessing land and other resources on the basis of communal relations as was the case originally. This state of affairs was applicable to some extent in Barotse land among the Lozi people, where land lords emerged and controlled access to some resources (Clarence-Smith, 1979). Also, most of the land and cattle were controlled by the chiefly classes and land lords (Coleman, 1983) and some prolific fishing sites, turtle lakes and grazing land were reserved for the king who was considered the owner of land (Gluckman, 1968).

These internal changes interfaced with externally introduced influences with the imposition of colonial rule, leading to the emergence of market driven economic relations involving individualization of land tenure in some African societies (Howard, 1980).

Despite these gradual transformations which created complex agrarian social structures, the original communal set up did not completely disappear. It was resilient and remained the most prevalent system of accessing land and other natural resources for ensuring livelihoods and food security in most parts of pre-colonial Sub-Saharan Africa including Zambia.

## **2.2 Pre-Colonial Food Production Systems or Land Usage**

An attempt will now be made to describe some of the food production systems or systems of land usage that existed before the coming of colonial rule in Zambia. These systems were documented by colonial scholars (especially anthropologists) who wanted to understand the workings of pre-colonial African systems. Although the documentation naturally took place during the colonial period, the major elements of the systems were remnants of pre-colonial systems and we can cautiously argue that these descriptions can give us a glimpse of what existed before the imposition of colonial rule.

### **2.2.1 The Bemba System of Food Production**

The Bemba people reside in the Northern Province of Zambia where rainfall which exceeds 1,000mm per annum has contributed to the evolution of leached sandveld soils. Within this high rainfall agro-ecological region, the Bemba developed a system of shifting cultivation known as *citemene*.

In this system, men climbed trees in order to lop the branches that were pulled by women to create a circle that was burnt before sowing crops into the intermixed ash that was rich in potash.

At the micro level, Richards (1939) has indicated that the Bemba were able to identify different soil types such as – sandy soil – this white sandy soil was common on the plateau and was used for growing millet, sorghum, legumes, groundnuts, cassava and sweet potatoes; red soil – this was a rich red clay loam, which was considered as “the soil for food” and was sown with sorghum; black soil – this soil was found near river banks around large flood plains, swamps and small dambos – this soil was good for cultivation and was not easily exhausted. It was sown with six varieties of maize, the red variety of rice, seven varieties of beans and cucurbits, cassava, sweet potatoes, groundnuts, fruit trees and sugar cane (Gouldsbury, 1911, pp.298-299). Then there was refuse soil or *umufundo*, found on deserted villages. This soil was very fertile. It was sown with maize and cucurbits. These were known as *Mputa* gardens.

Although the Bemba are reknown for practicing *citemene*, Richards (1939) found out that they were able to practice what she called “sequences” or the beginnings of crop rotation. These rotations were practiced on the very rich red loamy soil on communal land. For instance around Malole Mission, the people were found to be practicing a 10 year rotation including finger millet, sorghum, groundnuts, cucurbits, peas and beans. Other rotations were based on cassava and sweet potatoes with millet (Richards, 1939, p.318 and p.34).

Similarly, Trapnell (1953) reported that the indigenous food production system which existed among the Bemba involved the practice of sequences which included the following:

- the millet-groundnuts-beans sequence, with the legumes sown on mounds.
- the millet-beans or double millet-groundnuts and beans sequence.
- Inter planted sorghum and millet in the first year; then sorghum for two years and then beans (Trapnell, 1953, p.46).

Although the Bemba system of food production was vulnerable due to the fact that it was dependent on rains and also suffered from other environmental shocks such as the locust invasion in 1933-34, which destroyed many gardens leading to empty granaries, Richards (1939) made observations about Bemba diet that seem to emphasize the resilience of the system at that time.

She stated that “their environment provides them with a variety of foods – cereal, roots, pulses, green vegetables, fruit, honey, meat, fish and salt ---.” (Richards, 1939, p.34). She went on further to emphasize that as a staple food, finger millet has had a high nutritive value compared to other cereals since it is superior in minerals like iron, calcium and phosphorous. It was also superior to cassava in protein, fat and mineral salts, although it is inferior to maize in protein and fat (Richards, 1939, p.38).

Richards also observed that the Bemba diet consisted of other valuable food stuffs that included pulses, groundnuts, ground beans and cow-peas. These were a valuable source of vegetable protein and fat. Groundnuts were particularly rich in fat and this added to their importance in a diet in which fats of all kinds were very deficient.

She further observed that animal protein was rare but it was obtained from game meat, fish and caterpillars, while green leaves (either cultivated or wild), which form the main source of vitamin C, were obtained for six or seven months from April to September. Fruits, gourds and mushrooms were also eaten as subsidiary foods, especially during the hunger months, and sweet potatoes were eaten in most seasons except during the rainy months (Richards, 1939, p.39).

These observations would seem to suggest that although the Bemba, like other, ethnic groups in Zambia depended on simple cereal based diets, the nutritive value of such diets was ensured largely by the amount of subsidiary pulses grown in addition to the main cereal crops. This, relative food security at the household and community levels, was ensured through the broadening of the food base that included the cultivation of cereals, root crops, pulses and cucurbits.

### 2.2.2 Food Production or Land Usage among the Tonga

According to Allan et al. (1945), the Tonga people were originally shifting cultivators who practiced subsistence agriculture combined with cattle raising, before the coming of colonial rule (Allan et al., 1945, p.2). The major crop that they cultivated was local maize. This was done on the fertile plateau soils. It was also possible for the Tonga to keep cattle because the plateau was free from the tsetse fly. Other subsidiary gardens were prepared for sorghum and pulses (Allan et al., 1945, p.6 and p.81).

Tonga custom allowed individuals to acquire land for cultivation in a number of ways. Firstly, an individual acquired land by clearing virgin or regenerated and unclaimed land. Secondly, land was obtained by transference of rights from one individual to another, temporarily or permanently. Thirdly, land was acquired by inheritance and by taking into cultivation his own vacated hut sites and their surroundings (Conroy, 1945, p.92).

The “waste lands” of the community formed a common pool from which any member of the *chisi* or community was entitled to help himself as he liked, and was made available for grazing cattle as part of common property resources.

Although the Tonga were originally shifting cultivators, it would seem that there were gradual changes in land usage. The use of cattle manure could have facilitated some families to work the same land for several decades with fallow periods (Allan et al., 1945, p.55 and p.57).

Earlier on Trapnell and Clothier (1937) had indicated that the Tonga had “developed a more elaborate and stable system ---” of cultivation in the southern plateau woodland (Trapnell and Clothier, 1937, p.35). Maize and sorghum were the major cereals which were grown in greater proportions. Sweet potatoes were planted separately in beds. Each cultivator extended his garden into the bush every year by growing groundnuts, ground beans, pumpkins and finger millet.

It was further stressed that in the Tonga village garden, a system of crop rotation was practiced. In this system, maize, finger millet, sorghum and bulrush millet, were rotated with groundnuts (and other legumes that were nitrogen fixing), creating a situation where “cultivation is thus more or less continuous” (Trapnell and Clothier, 1937, p.36).

With respect to land rights, it would seem that once land was obtained in the way stated above, individuals enjoyed a degree of security since there was no interference in the holding (Allan et al., 1945, p.63).

As a matrilineal (but patrilocal) society, Tonga women could own rights in property, both in land and in livestock, especially cattle (Conroy, 1945, p.103). It was customary for each wife in a household to cultivate a

separate garden, especially part of the extension to the garden in which she planted groundnuts, ground beans and occasionally local maize.

A grown, but unmarried woman could be given a garden at either her mother's or her father's home, and these women had the same rights in the gardens as men. Often old or widowed women would return to their brothers and cultivate land. When a single woman, neither widowed, nor divorced, got lands at one of her parents' villages, the gardens and all the crops were hers. In addition, a woman could get cattle from the marriage of her daughters, or as a gift from the head of a relative when redistribution of the estate took place (Conroy, 1945, p.104).

Thus, the cultivation of local maize and other cereals, plus pulses, groundnuts, cucurbits, and sweat potatoes; and the rearing of cattle that provided meat and milk to the diet, seem to have combined (with secure land rights for both men and women), to ensure relative food security for Tonga society, and therefore resilience of rural Tonga communities at a subsistence level, before the advent of colonial rule.

### 2.2.3 Food Production and Systems of Land Usage among the Lozi

The historical experience of the Lozi speaking peoples of Barotse land, now Western Province, shows that the highly complex micro-ecological conditions on the flood plain and upland, facilitated the evolution of perhaps the most complex and intense cultivation systems in pre-colonial Zambia. In the system, no less than eight different gardens were prepared. These included the following (Kajoba, 1993; Peters, 1960; Gluckman, 1968; Trapnell and Clothier, 1937):

- Margin gardens (*litongo*) – These were dry margin gardens on sandy ridges within the flood plain. They were sub classified as moist, dry and plains *litongo*. The moist *litongo* for instance were extremely fertile humus rich soils which were kept irrigated by perenial drainage along seepage lines. These soils were heavily cropped with maize, cassava, fruit trees (like paw paw and pineapples), sugar cane, tobacco and vegetables. The soils were cultivated in perpetuity and fertility was restored through deposition of silt during flooding and through cattle manuring;
- Clay-gardens (*sitapa*) – These were also moist and were developed on clay soils. They were planted with sweat sorghum and local maize (with early and late maturing varieties).
- Drainage Gardens (*sishanjo*). These were labour intensive gardens which involved the cultivation of seepage peats found along the dambo margins. The gardens were made by excavating a lattice work or network of deep drainage canals which linked up with main water courses and man made canals (Hellen, 1968). The grasses which were cleared and burnt facilitated the growing of heavy crops of maize and sweat potatoes. The gardens were also cropped with millet, pulses and cucurbits. The *shishanjo* gardens were cropped for long periods.
- Mound Gardens (*mazulu*). *Mazulu* refers to gardens that were prepared on mounds/anti-hills that occasionally occur in the Barotse plain. These provided “the most prized gardens and the only practicable site for building. Since their number in relation to the population (was) strictly limited they (were) highly valued” (Peters, 1960, p.17).

The *mazulu* were located in the ecological belt called *Bulozi*, where they rise above the flood plain and formed islands during the flood. These were very fertile and scarce. Each cultivator had only about 0.101ha. to 0.202ha., and only a few households could build huts on these mounds. One theory is that these mounds were made as part of public works by slaves (Largworthy, 1972). Allocation of such mounds was tightly controlled by the ruling groups. Crop rotation was practiced as all the mounds were fertilized with staked cattle. Local maize, sorghum, cucurbits, pulses, cassava, sweat potatoes, yams, Livingstone potatoes, groundnuts, rice, vegetables, fruits and tobacco were all grown.

- *Mukomena* – These were subdivided into dry and moist *mukomena*. The dry *mukomena* were found throughout central Barotse land. They were raised beds that were used for root crops, especially sweat potatoes, cassava and Livingstone potato. The moist *mukomena* was prepared in the perennially moist humic sands. Two crops a year were obtained due to the continuous availability of moisture. Maize and sweat potatoes were alternated (Peters, 1960).
- *Matema* – These gardens were prepared on upland in cleared forest and thicket, with a greater emphasis on the cultivation of cassava (Peters, 1960).

These systems of intensive cultivation that were practiced by the Lozi on the Zambezi flood plain and on the upland made it possible for the cultivators to grow a wide variety of crops on a permanent basis. This contributed to ensuring relative food security. To a great extent, the practice of these food production systems that facilitated continuous cultivation suggests that the food production systems were sustainable and resilient, as the communities enjoyed relative food security.

As indicated later, when David Livingstone visited the Barotse plain in 1853, he was quite impressed with the status of food security of the Lozi peoples. However, despite this, elements of vulnerability did always

exist, especially those based on possible environmental shocks such as drought, excessive flooding, livestock epidemics, as well as the impacts of colonial policies referred to in Section 3.3.

With respect to land tenure among the Lozi peoples, it could be argued that all land was vested in the Lozi king. Since land was scarce in the kingdom, it was tightly controlled and was allocated through what White (1959) called a descending hierarchy of estates.

Gluckman (1969) stated that “ultimately, the Lozi consider that all the land, and its products, belong to the nation through the king” (Gluckman, 1969, p.253). However, citizens or subjects were entitled to a right to arable land and a right to use public lands for grazing and fishing in the commons (Gluckman, 1969).

On the other hand, Clarence-Smith (1979) seems to suggest that the land tenure system among the Lozi had evolved to resemble what can be characterised as semi-feudal property relations. He states that “arable land, cattle and the more valuable fishing sites were all privately owned by a small minority, in the sense that the minority had privileged rights of access to these resources and could exclude people from obtaining access to them” (Clarence-Smith, 1979, p.221).

In the case of women’s rights in land, Peters (1960) indicated that an adult woman obtained land both from her father and from her husband. A woman who was given land by her father retained such rights in land even when she got married and went to settle at her husband’s house. She was free to work the land given to her by her father if it was close and the produce from such land was hers absolutely.

In the event of divorce or being widowed, a woman could return to her village and claim either her old garden back or other land could be given to her in lieu of it.

If a widow stayed with her children at her former husband’s village, she still had access to the land, but such land was not hers but for the children, granted to them by their father.

When a man marries, he was expected to give land to his wife. Both the man and the woman had equal rights to the produce from that land. Such produce was for the subsistence of the household. Where the marriage was ended by divorce or death, “the produce (was) divided in half, half (went) to each partner or to his or her heirs” (Peters, 1960, p.47).

If a man polygamously married a second wife, he was expected to give her land equally with the first wife. A woman could petition for divorce if her husband did not give her land for a garden, and a man could divorce a woman by taking away her gardens (Peters, 1960).

When David Livingstone reached the Barotse plain in 1853 (south of Mongu and north of Namushakende), he made observations which show that agro-ecological conditions in the present day Western Province, were suitable and supported a wide variety of crops that included maize, millet, sorghum, cassava, sweet potatoes, beans, groundnuts, yams, melons and sugar cane (Livingstone, 1857, p.220).

He commented that “the soil is extremely fertile and the people are never in want of grain, for, by taking advantage of the moisture of the inundation, they can raise two crops a year---” (Livingstone, 1857, p.215).

Livingstone further commented that apart from cultivation of food crops, the local people (the Lozi), were able to catch fish from the Zambezi river and its lagoons, gather wild fruit and water fowl, and that this abundance of food or livelihood resources,” always make the people refer to the Barotse as the land of plenty” (Livingstone, 1857, p.215).

Livingstone also observed that the Zambezi Flood Plain was covered with coarse succulent grasses “which afford ample pasturage for large herds of cattle; these thrive wonderfully, and give milk copiously to their owners ---” (Livingstone, 1857, p.215).

Apart from Barotse land, Livingstone also traveled north through the Luapula valley (on his way to Angola), and made observations on some aspects of ecologies of agricultural systems in the Luapula Valley the home of the Lunda People of Mwata Kazembe.

He indicated among other things that the land of the Lunda appeared very fertile, with many villages and gardens of cassava which was intercropped with beans or groundnuts. He observed that the villages continue to sow and reap all year round. The cereals included maize and millet, while root crops included yams and sweet potatoes. These people extended their generosity to Livingstone and his party, and he observed that “the people of the surrounding villages presented us with large quantities of food ---” (Livingstone, 1857, p.305).

Livingstone did not only visit the Barotse Plain and Kazembe’s country. During his expedition along the Zambezi in 1860, he observed that in Tonga country, the river banks were intensively cultivated. He stated that “every damp spot is covered with maize, pumpkins, water melons, tobacco, and hemp” (quoted in Scudder 1962, p.37).

Between 1885 and 1888, George Westbeach also traveled through Barotse land, and he indicated in his diary that at Sesheke, he found women pounding maize and kaffir corn or sorghum in order to make coarse meal (see Tabler, 1963, p.78). This goes to suggest and confirm what Livingstone had observed earlier, that the Lozi people of Barotse land cultivated both cereals as staple crops.

When Selous passed through the present day Southern Province in the 1890’s and reached the place of chief Monze near Chisekesi (in present day Monze district), he remarked that “water is extremely scarce”

(Selous, 1893, p.209), which suggests that even at that time the region experienced lower annual rainfall as it does in the contemporary times.

However, despite the scarcity of water, Selous found that Tonga people reared large herds of cattle on the “open treeless downs” covered with tall grass, and grew food crops which included maize, sweet potatoes and groundnuts (Selous, 1893, p.212; p.216; p.219).

Towards the close of the pre-colonial period, at the time when the Northern Province was being incorporated into North East Rhodesia in the 1890’s, the Bemba peoples were found to be cultivating a wide variety of food stuffs. Gouldsbury (1911) who resided in Bemba country at the time of incorporation, stated that the indigenous people were found cultivating the following main varieties of crops; *Male* (Elusine Coracana) – a dwarf species of millet which was the staple; many varieties of sorghum (sorghum vulgare); millet (Pennisetum typhoideum); six varieties of maize; the red variety of rice (which was cultivated before the Arabs introduced the white seed); seven varieties of beans; pumpkins, melons and gourds; cassava; potatoes and groundnuts. Other crops included sugar cane, paw paw and bananas (Gouldsbury, 1911, p.298-299),

Angus, an explorer who had traveled through Ngoni land in the Eastern Province before 1898, observed that Ngoni villages were surrounded by “waving cornfields, which seemed unending “in their extent”; adding that “never before in any of my African wandering had I seen such an extent of land under cultivation---” (quoted in Priestly and Greening, 1956, p.2).

It can thus be deduced from the accounts of Livingstone, Selous and others that during the pre-colonial period in Zambia, the ecologies of agricultural systems were suitable for the cultivation of a variety of cereals, root crops, pulses, and others ,and the raising of livestock that contributed to ensuring relative food security at the level of subsistence.

### **3.0 VULNERABILITY AND RESILIENCE DURING THE COLONIAL PERIOD : 1891 -1964**

The incorporation of Northern Rhodesia (now Zambia) by the British South Africa Company (B.S.A. Co.) in 1891, was followed by company rule between 1894 and 1924. After this, up to 1964, the territory was controlled directly by the British Crown.

During company rule when copper mining was still marginal, the colonial state attempted to replicate Southern Rhodesia (now Zimbabwe) policy of encouraging European Settlement (Palmer, 1973). Land was bought cheaply, especially in the Southern Province around Kalomo, Choma, and Mazabuka .

From 1903 onwards, white farmers from South Africa settled along the line of rail (from Livingstone to the copper belt) especially in Tonga country which had fertile soil and was free from tsetse fly (Roberts, 1976). The settlers grew hybrid maize and raised cattle, mostly for the Katanga market and later for the expanding urban market, especially the copper mines. Maize and beans were produced as rations for the African miners on the copper belt. By 1911, there were 159 white farm holdings in Northern Rhodesia (Palmer, 1973, p. 57).

To secure sufficient labour for the European farmers and the mines, hut taxes were universally imposed in 1911. The colonial state used hut tax as a means of compelling Africans to offer their services since labour demands by settler farmers and the mines competed with African needs to engage in their subsistence production in the rural areas. Africans could not pay tax in kind, and so they had to offer their labour in order to raise money with which to pay the taxes.

The B.S.A. Co. also started the creation of native reserves (between 1924 and 1929), in order to set aside more land for further European settlement and also create pools of cheap African labour. These reserves were established along the line of rail, especially in the Tonga country, in the Eastern Province around Chipata, (formally Fort Jameson), and in the Northern Province (Palmer, 1973).

A total of 19 reserves were created in the Eastern Province, 13 in the Northern Province and 16 along the line of rail (Chileshe, 2005, p. 83-84). In these provinces, land was alienated and set aside for European use, while Africans were forced to relocate into the reserves.

The opening of copper mines, the promotion of European settler agriculture, the creation of native reserves and the imposition of the hut tax, all combined to trigger a process of labor migration from the rural areas to the settler farms and the copper belt. With the expansion of copper mining in the 1920s, there were a total 46,680 Africans in 1928 who were employed within Northern Rhodesia/Zambia. This increased to 61,730 by 1929 and reached 76,626 in 1930 (N.R.G./Zambia, Native Affairs Annual Report, 1930, p. 9).

Because of labour migration, absentee rates in the rural areas were usually high. For instance, by 1938, between 50 to 60 percent of adult males from Chipata and 50 percent from Petauke in the Eastern Province migrated to Zimbabwe and the copper belt in search of employment (Hellen 1968 p. 98, table 4). By 1961 the Northern Province had 51 percent of the male tax payers absent as migrants. In Kasempa district alone, 60 percent were absent and about 30 percent were absent from the Zambezi district (formally Balovale district) in the same year. (Hellen, 1968, p.226).

Private agencies were involved in recruiting labour in some cases. In Luapula Province, an agency run by R.W. Yule recruited up to 5,176 workers to go and work in Katanga by 1928 (N.R.G./Zambia, Native Affairs Annual Report, 1930, p. 19 and 1931, p. 30).

From the Western Province (formally Barotse land) about 50 percent of the able bodied men at any one time were recruited by an organization known as Wiltwatersrand Native Labour Association (WENELA), that sent them to work on the copper belt, Zimbabwe and South Africa (Allan and Gluckman in Peters, 1960, p. ix). By the end of colonial rule, Barotse land provided 6,000 migrant workers each year. In 1962 alone 16,000 migrants passed through Barotse land to South Africa, and 44% of all taxable males were absent by 1961 (Hellen, 1968, p. 248-249).

### **3.1 Vulnerability of the Bemba Food Production System**

The policies by the colonial state which triggered labour migration from the rural areas of Zambia created vulnerability of rural societies, as food production systems were negatively affected.

Among the Bemba in the Northern Province, where males were required to climb trees in order to lop off branches that were then heaped together by women and burnt to make fields that were sown with millet (the staple cereal), the absence of the males undermined the *citemene* system of food production. Up to 70% of the male tax payers were absent from their villages due to labor migration. (Richards, 1939, p. xiv). The women who were left behind could not climb to lop the branches from the trees, and *citemene* agriculture together with the Bemba village economy suffered greatly (Richards, 1939, p. 405).

Between 1939 and 1957, Richards found that "the diet of those left behind seemed to be worse... although clothing had improved and tea and sugar were in common use. A number of women without men to support them purchased food and drunkenness was more obvious in the villages. Food had begun to be bought and sold even in the rural areas "(Richards, 1939, p. xiv).

The reserves that were set aside for the use by Africans experienced congestion and over crowding by both humans and livestock. This over crowding led to land degradation, especially soil erosion. The livelihoods of the Africans in the reserves were negatively affected as land degradation led to successively poor crops. In Mkushi, the creation of reserves reduced the land available to Africans by about 64 percent. In some reserves famine conditions obtained as the food security situation deteriorated because of the failure of Africans to carry on with subsistence production practices based on the shifting cultivation mode of land use, given the limited amount of land allocated to them (Chileshe, 2005).

### **3.2 Resilience and Adaptation of Tonga Society**

Although Tonga society was also negatively affected by labour migration, the food production system (and especially land tenure) exhibited an element of resilience in that the people adapted to the forces of modernization.

The introduction of commercial agriculture by European settler farmers (on crown land) and the adoption by Africans of such methods (hybrid maize and ox-drawn ploughs) triggered a radical transformation in the peoples attitudes towards communal land in the reserves. Pressures toward individualization of land tenure became apparent.

North et al (1961) observed that powerful socio- economic forces became operative in the Southern Province among the Tonga farmers, who began to experience a "greater sense of personal ownership" of land (North et al, 1961, p. 211).

Among the Tonga, permanent commercial agriculture had gained ground and shifting cultivation was on the way out. In Mazabuka, farmland cultivated by some Tonga farmers was being fenced with barbed wire implying personal or individual ownership of land. Even communal grazing land was being fenced.

Furthermore, a land market had also emerged. Land was being sold contrary to customary laws, although sometimes people would try to disguise the sale of land as only being a sale of 'improvements' on land. It was reported that many people in Mazabuka were openly admitting to and advocating the sale of both improvements and the land it self. (North et al, 1961).

People were making permanent or immovable improvements on land such as fences, bore holes, and brick houses. Others were spending large sums of money on purchasing agricultural implements like tractors, ploughs, cultivators, and scotch carts (North et al, 1961). In addition, White (1961, p. 3) observed that sons were inheriting farm through wills of their fathers instead of inheritance taking place matrilineally as per Tonga custom.

Allan et al (1945) were able to distinguish three categories of farmers that had emerged among the Tonga especially in Mazabuka District. Subsistence farmers were the majority who constituted 85% of the population; while small-holders (who cultivated land about twice as much as what they normally did under

subsistence) were 14% and farmer families (who had large farms that were three times the size that they could cultivate under subsistence) were only 1% (Allan et al, 1945, p. 1).

Adger (2000) contends that social resilience “is defined at the community level rather than being a phenomenon pertaining to individuals”, and is therefore “related to the social capital of societies and communities” (Adger, 2000, p. 349)

From this point of view, it may be argued that many Tonga people depended on the role of social capital in adapting their food production system, from simple subsistence to semi-commercial and even commercial market oriented production. This was done by adopting new agricultural technologies such as hybrid maize, use of chemical fertilisers, and modern implements (especially ox- drawn ploughs). These had been introduced by White settler farmers, the Seventh Day Adventist missionaries and by interventions made by the colonial state in the Peasant Farming and African Improvement Farming Schemes.

In this regard, Chipungu (1988) states that many poor individuals in the Tonga communities accessed these new technologies by borrowing ox-drawn ploughs and other agricultural implements from their richer relatives or kinsmen and even from neighbours.

Allan et al (1945) also made similar remarks. They stated that “the relations between big growers and their fellows are good. The big men even help others, by allowing them to use wells which they have sunk and by loaning implements, and above all, they have close personal ties with many. They help their own relatives to some extent, and they are nearly all Seventh Day Adventists, members of a church which seems to have a deep sense of group loyalty”(Allan et al. 1945,p.70 and p.145).

Thus, social capital or social networks contributed to the agricultural transformation that Tonga society experienced with the penetration of colonial rule and the introduction of modern methods of agriculture. These transformations occurred despite the negative impacts of taxation, creation of native reserves and labour migration.

It should be underscored that agricultural transformation among the Tonga communities contributed to the generation of agricultural incomes and increased food security. The Tonga were able to produce maize beyond basic subsistence requirements, and they even competed with European settler farmers for the maize market (Muntemba, 1980).

Individuals were thus able to purchase agricultural equipment, clothes, cattle, household goods, build permanent houses etc, reflecting an improvement in their standard of living with the introduction of the modern money economy.

However, despite this resilience exhibited through adaptation to the force of modernization, the Tonga food production system seems to have neglected the cultivation of other cereals (like sorghum and millet) and because dependent on hybrid maize. This dependency on one cereal that was less tolerant to drought was a built in aspect of vulnerability to future environmental changes or shocks.

Furthermore, the transformations in land tenure that were due to the development of commodity production, led to the vulnerability of women farmers due to the erosion of their land rights. While men devoted more arable land to the production of maize (and other cash crops like cotton and tobacco), women became more marginalized as they were allocated smaller portions of land for the cultivation of food and other subsidiary crops like groundnuts and sweet potatoes. In the native reserves the colonial administration allocated land increasingly to men rather than to women partly due to land pressure (Keller et al, 1990, p.244).

Although women continued to supply labour in the cultivation of the main fields that were controlled by their husbands for the production of cash crops, they had no control over the use of proceeds arising from the sale of such cash crops. These developments continued even after the attainment of political independence (Keller and Mbewe,1988), and highlight the complex interplay between vulnerability and resilience of rural Tonga and Zambian society, to the agricultural policies and transformations that started in the colonial period with the introduction of the money economy.

### **3.3 Vulnerability of the Lozi Food production System**

The labour intensive flood plain or wetlands food production systems of the Lozi discussed above under section 2.2.3 became vulnerable to the impacts of colonial policies. Taxation and the abolition of tribute labour and slavery in 1906 (Coleman,1983), meant that the labour that had previously been provided for the performance of public works such as digging and maintenance of drainage canals that ensured the cultivation of *sishanjo* and other gardens was no longer available.

Migration caused a shortage of labour, and especially the shortage of cattle keepers. The combined impact of epidemics such as Contagious Bovine Pleuro-Pneumonia (CBPP); the collapse of drainage networks, with the consequent water logging of some of the most fertile soils on the plain, and excessive flooding, led to a situation where productivity of Lozi agriculture could not even provide adequate food for subsistence. The missionary Coillard who came later after David Livingstone, reported that people in Sefula were dying of hunger (Coillard, 1897, p.327).

Thus, because of colonial policies as well as environmental shocks, Barotse land became a food deficit area, and began to import maize from other parts of Zambia by the time of independence in 1964. It was estimated that up to 80,000 bags of maize per annum had to be supplied to the province at independence (Van Horn, 1976, p.164).

Despite this apparent collapse of the Lozi food production system, the people continued to utilize the wetlands as well as the upland for the cultivation of sorghum, millet, sweet potatoes, rice and cassava at the subsistence level. The massive wetlands remain with great potential for agricultural development and livelihoods sustenance, due to availability of seepage zones with moisture throughout the year, cattle raising (if epidemics are controlled), fishing and timber production on upland (Kajoba, 1993; ZVAC, 2004).

#### **4.0 VULNERABILITY AND RESILIENCE AFTER INDEPENDENCE**

##### **4.1 Vulnerability despite heavy state involvement: From 1964-1990.**

In discussing issues of vulnerability and resilience of rural society in Zambia after the attainment of political independence on 24<sup>th</sup> October 1964, an effort will be made to first review the situation between 1964 to 1990, during the period of Dr. Kenneth Kaunda's rule with the then ruling United National Independence Party (UNIP).

Ncube(1983) stated that agricultural policies in Zambia since independence had emphasised among other things the following:

- The improvement of the standard of living of the rural population
- The creation of a self-reliant and progressive rural Zambia;
- The attainment of self-sufficiency in food grains; and
- The provision of infra-structure for the economic development and social stability of rural areas(Ncube, 1983, p.13-14).

In order to achieve these noble objectives, the UNIP government undertook a number of agricultural/rural development programmes such as settlement schemes (to resettle people from overcrowded reserves and areas with tsetse fly); Producer Cooperatives (that attempted to promote socialist oriented production); Intensive Development Zones or IDZs (based on the growth pole theory of concentrating development efforts at specific nodes from which development could spread outwards); Intergrated Rural Development Programmes or IRDPs, (with the aim of intergrating planning, monitoring and evaluation of development projects to be run by local government institutions) ; Rural Reconstruction Centres (aimed at resettling unemployed school leavers under military discipline) ; Operation Food Production Programme (aimed at establishing state farms in the country) and the Lima Programme.

The Lima programme that was launched in 1980, was perhaps the one programme that was most popularized by the politicians. Its aim was to improve the productivity of small-scale village farmers, who were encouraged to apply chemical fertilizers on at least one quarter of a hectare, called a "Lima". This programme was donor funded, but the Zambian government was expected to provide counter part funding. Politicians and government extension workers from the Ministry of Agriculture, persuaded village farmers to stop shifting cultivation or *citemene* by providing them with free inputs under the National Lima Fertilizer Programme (Eklund, 1985).

The Lima programme promoted the cultivation of maize (to the exclusion of other traditional cereals) as a cash and food crop. In the Northern Province maize production between 1975-1988 increased by 850 % (Moore and Vaughen, 1994 p.206).

It may be argued that these rural development programmes, with the exception of Producer Cooperatives, Rural Reconstruction Centres, and the Operation Food Production Programme, which failed to achieve their objectives (Siddle, 1971; Bwalya, 1984; Kalapula, 1984), were successful to a large extent because they made it possible for rural society to access infrastructure like passable feeder roads, schools, rural health centres, clean drinking water and marketing depots.

Furthermore, the successful programmes (specially the IDZs, the IRDPs and the Lima Programme), contributed to the emergence of a small-holder class or group of commercially oriented rural producers across the entire country. This development discouraged shifting cultivation but facilitated the increase in the number of emergent farmers, who marketed at least 50% of their harvest each agriculture season (Lombard and Tweedie, 1972).

However, these programmes made rural society in Zambia rather vulnerable (especially to the vagaries of weather), for relying solely on one cereal as a staple to the exclusion of all others. The Lima programme which received much publicity and was like IRDPs, supported by donors, did not promote sorghum, millet and the root crop cassava.

The rural development programmes also contributed to vulnerability of rural society in that they created and entrenched a culture of dependency on massive state intervention in the agricultural sector that has become difficult to change.

Promotion of commercial production of maize was a carry over from colonial policy that seems to have focused on a narrow food base of one staple cereal, instead of incorporating the other food and relish crops (like pulses, beans and ground nuts) that were part of the diet in the pre-colonial period (as was shown in section 2.0). It should be noted that this trend in cereal production has also seen changes in food preference. People have become accustomed to consuming maize meal that was more accessible in urban areas, but the trend has diffused also into the rural population.

Vulnerability of rural society was more apparent because maize was more susceptible to frequent droughts leading to crop failure and therefore, low yields. During this period under review, maize production tended to fluctuate sharply over the years as shown in table 1 and figure 1. and government explained these shortfalls in terms of adverse weather conditions and sporadic out breaks of cattle diseases (GRZ, 1983).

Food self-sufficiency that had been hoped for by the government did not occur, despite heavy government intervention by subsidizing inputs, transport and the creation of an elaborate research and marketing infrastructure for maize.

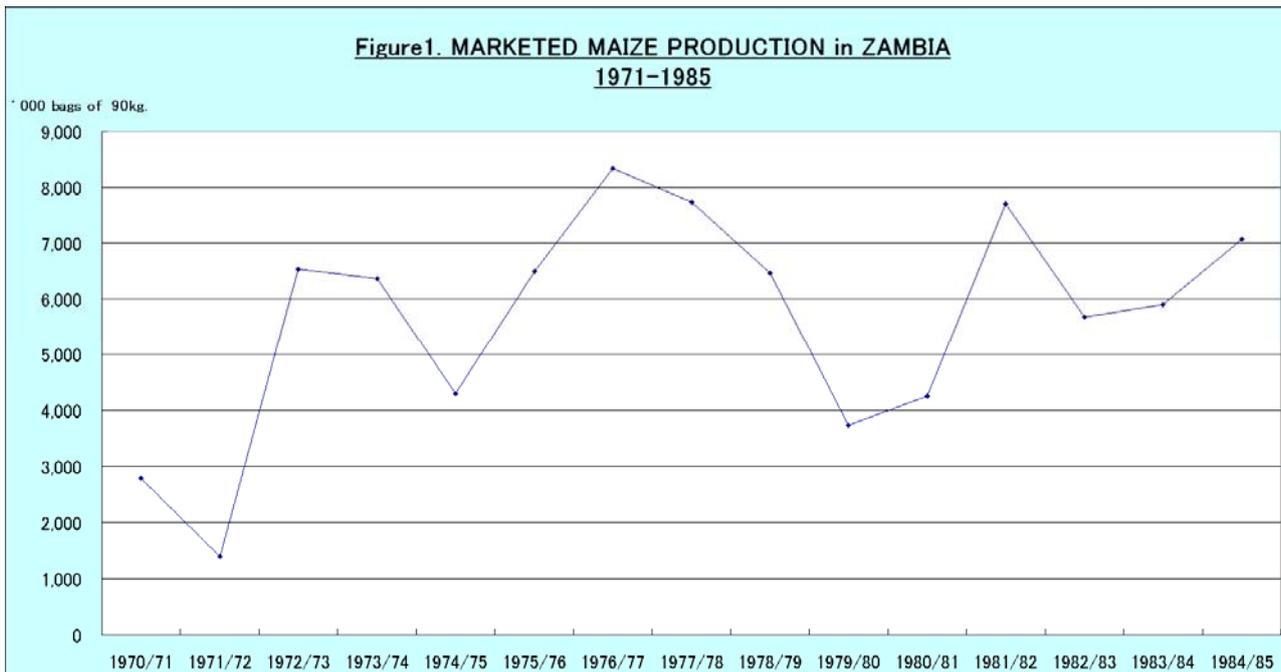
In addition, credit was made available to small-scale farmers by government supported financial institutions like LIMA Bank and Credit Union Savings Association (CUSA); while the crop was bought, transported and stored nationally by the National Agriculture Marketing Board (NAMBOARD).

For most years, maize production was just sufficient to meet national demand and imports of the cereal and other food requirements (especially for the urban population) were still required (Wood, 1990). Table 1 and figure 1 show that from the 1972/1973 agricultural season to 1978/1979 season, marketed production fluctuated around 6 to 8 million 90kg bags, although there was a drop to 4 million bags in the 1974/1975 season. From the 1979/1980 season, production was below 6 million bags except for an increase to 7 million bags in the 1981/1982 and 1984/1985 seasons.

Table1. Marketed maize production in Zambia, 1971-1985

Year	' 000 bags of 90kg.
1970/71	2,791
1971/72	1,388
1972/73	6,539
1973/74	6,367
1974/75	4,290
1975/76	6,491
1976/77	8,334
1977/78	7,734
1978/79	6,463
1979/80	3,733
1980/81	4,247
1981/82	7,704
1982/83	5,672
1983/84	5,902
1984/85	7,069

(Source: GRZ 1986, Monthly Digest of Statistics, Vol. XX II , No. 5 to 8, May/ August, p.6, Table8)



(Source: GRZ 1986, Monthly Digest of Statistics, Vol. XX II , NO5 to 8, May/ August, p.6, Table8)

By 1975, Zambia imported 99% of its wheat, 95% of its rice, and over 80% of its potato requirements (Wolding, 1984, p.99). Large quantities of maize had to be imported from Kenya, the United States of America, Zimbabwe and South Africa in the 1979/80 and the 1980/81 seasons, to meet short fall due to low productivity, droughts and storage facilities problems.

Efforts that were being made by the government to promote the commercial production of rice in the Western Province and on the Chambeshi flats in the Northern Province, did not reduce vulnerability and increase food available for local consumption, because even rural people had become accustomed to consuming maize meal as the staple.

According to Chikulo (1986,p.5) these food imports contributed to the increase in the national debt at a time when foreign change earnings from copper had drastically declined from 64% in the 1960s to only 3% in the 1980s. Similarly, Wood (1990) points out that from 1964 to 1985, subsidies increased forty fold and worsened the budget deficit and the country's balance of payments leading to foreign borrowing.

With the commercialization of maize production, it was found that in some rural communities, women farmers tended to direct all their labour effort on maize production requirements (in order to raise incomes) at the expense of other food requirements (like pulses for relish, groundnuts and sweet potatoes).

Furthermore, some of these rural women became more vulnerable to food insecurity as they sold all their maize harvest without leaving anything for consumption. This was done in the hope that they would be able to purchase cheap subsidized maize meal on the rural markets, but, if such farmers spent all their income on other household requirements and failed to buy sufficient maize meal, they would become more vulnerable. Such miscalculation probably contributed to the apparent increase in the incidence of child malnutrition in more 'commercialized' households (Moore and Vaughn, 1987, p.540).

In this regard Sharpe (1990) points out that the Food and Agricultural Organization (FAO) and United Nations Development Programme (UNDP) noted by 1974 that the food economy and diet of Zambia was over dependent on maize and urged the diversification of food sources. He also noted that "increased production has not been translated into increased household or rural area food stocks...many households continue to suffer from absolutely inadequate food supplies..."(Sharp, 1990, p.585). This was so because food purchases did not meet household requirements.

However, despite this vulnerability of rural society in Zambia caused by over dependence on one cereal as a staple crop, there were also indications of adaptation or resilience of the food production systems. Moore and Vaughn (1994) contend that diffusion of land use practices or agricultural methods from one area to another has brought about positive change especially among the Bemba people of Northern Province.

They argue that the gradual spread of cassava cultivation from the west (among the Lunda of Luapula Province where it is combined with fishing), and the spread of green manuring (or *fundikila* from the Mambwe people within Northern Province), have combined to supplant millet as a staple food.

Furthermore, the boom that has been experienced in the cultivation of hybrid maize since the 1980s, has contributed to the decline of *citemene* and the adoption of semi-permanent cultivation methods.

While the colonial administration encouraged cassava cultivation as a famine relief crop, the root crop, together with green manuring, has spread extensively in the province. Large cassava gardens (usually interplanted with many other crops including pulses for relish) were found in the 1990s to be a wide spread feature of the landscape, and were very central to household food-sufficiency or security than the *citemene* gardens that are sometimes cultivated alongside them (Moore and Vaughn, 1994, p.43-44).

It could be argued therefore that while government agricultural policy from 1964 to 1990 nationally promoted commercial production of hybrid maize, to the exclusion of other food crops leading to vulnerability of rural society, the gradual but independent and largely indigenous diffusion of cassava and green manuring (*fundikila*), plus state promoted hybrid maize, have all combined to make it possible for Bemba small-scale farmers to broaden their food base. This has been done, through the cultivation of the root crop, maize, millet, pulses (for relish) and other food crops that were intercropped with cassava. This trend can be seen as contributing to the adaptation or the rebuilding of resilience of the food production systems (among the Bemba) and hence, to resilience of rural society after independence from 1964 to 1990.

With respect to land tenure during the UNIP rule, rural communities continued to access land and other common property resources on the basis of customary law, since the government carried over the dual land tenure system that catered for both communal and statutory tenure, as inherited from colonial rule. Thus, private (Crown land, now State land) and communal tenure (on Reserves and Trust Land) were upheld at independence.

Kajoba (1998) contends that for most of the period after the attainment of political independence, Zambia's land policies assumed a protectionist posture. By protectionism is meant the policies by which the ruling United National Independence Party and the state under Dr. Kaunda, assumed ownership or guardianship over the control of land. This was done in order to constrict private individual ownership, and was based on the ideology of Humanism which glorified customary tenure, and the assumed superiority of public ownership of the means of production, such as land, over individual private ownership (Kaunda, 1968; Kaunda, 1974).

Where rural resettlement projects were undertaken, the settlers were given 14 year leases. It would seem that like elsewhere in sub-Saharan Africa, the majority of such settlers were men as household heads, rather than women. But men continued to rely on the labour provided by women in order to cultivate their fields. This dependence by men on women's labour was found to be a major incentive that motivated some men to enter into polygamous marriages.

For instance, a 1980 Magoye Settlement Sample study of 44 households in Southern Province among the Tonga peoples, found 50% of the settlers polygamous, and "nearly all polygamous men attributed this high incidence of polygamy to labour requirements in farming on these schemes" (Mbulo, 1985, p.137).

Similarly, Milimo (1987) observed in her research findings that "one of the main reasons that motivates men to enter into polygamous unions is the need for a large force to work on their farms" (Milimo, 1987, p.76).

In most cases, such women had no control over the use of proceeds arising from such production, as the money was controlled by their husbands. A study by Crehan (1983), in North Western Zambia and another in the rural communities of Lusaka, Northern and Western Provinces, revealed that some of the problems faced by women small-scale farmers were that husbands tended to have total control of cash which was earned from joint farming efforts, and that husbands gave priority to cash crops which they controlled (Keller and Mbewe, 1988, p.19).

Towards the end of UNIP rule from November 1985 to October 1991 (after Dr. Kaunda's administration had allowed individuals on customary land to convert up to 250 hectares into a leasehold by 1985), offers of leasehold titles to individuals for 99 years were very low.

Those to men were only 145 or 2.6% of the national total of 5,565 offers, while those to women were insignificant as they totaled only 22 or 0.4% of the national total.

In Southern Province among the Tonga for instance only 4 women as compared to 26 men were offered title deeds for 99 years during this period. But more offers were given to the 'public sector' such as parastatals, companies and charitable organizations, in line with the protectionist policies, These totaled 5,398 or 97% of the national total (Kajoba, 1998, p.305, table).

These trends in accessing and ownership of land, food production and the control of proceeds by men, tended to marginalise women small-scale farmers, and undermined household food security as women did not control a major share of the agricultural incomes. Furthermore, this state of affairs made rural society more vulnerable to food insecurity.

In this regard, Gittinger (1990) has observed that cash cropping studies have shown that "the income controlled by women is more likely to be spent for food than the income controlled by men" (Gittinger, 1990, p.19).

#### **4.2 Vulnerability due to Policy Shifts and Environmental shocks: 1991-2001.**

According to Chabala and Sakufiwa (1993), the government of the Movement for Multiparty Democracy (MMD) and Dr. Frederick Chiluba, introduced the Structural Adjustment Programme (SAP), with the support of the International Monetary Fund (IMF) and the World Bank, in order to remove all monopolistic and excessive government involvement in the running of the economy. The new government wanted to encourage free enterprise and the operation of market forces of supply and demand, instead of a state controlled economy as was the case under UNIP and Dr. Kaunda's government.

Within the agricultural sector, structural adjustment entailed the introduction of market liberalization by which the government removed subsidies on fertilizers and other inputs, decontrolled prices of commodities including maize, and opened up marketing so as to attract competing marketing organizations.

Because of liberalization, the government began to privatize all agricultural parastatal companies so that new private sector based marketing agencies could enter the market. These changes saw the collapse of NAMBOARD, the liquidation of LIMA Bank, and collapse of CUSA and the Zambia Cooperative Finance Services, that had been responsible for providing agricultural credit to small-scale farmers.

The MMD government also eliminated exchange rate restrictions in order to encourage the establishment of 'Bureau de charge', although the state continued to monitor the foreign exchange market, and also liberalized export and import trade, while providing export incentives.

On the whole, the MMD government aimed at completely liberalizing the agricultural sector involving production, marketing and input supply, but still hoped that the new framework could facilitate increased agricultural production to ensure national, regional and household food security (Chabala and Sakufiwa, 1993).

These changes in maize and fertilizer marketing policy were so radical that they created policy shocks or shifts that resulted in some very serious short term effects on production, marketing and storage of Zambia's major staple crop, maize (Chabala and Sakufiwa, 1993). Furthermore these policy shifts had implications on household food production and undermined the resilience of rural society as a whole.

It must be noted however, that according to Njobvu and Shawa (1996), some attempts at agricultural policy reform were made during Dr. Kaunda's rule, between 1983 and 1987. These included the reduction of subsidies on maize meal and fertilizer, upward adjustment of agricultural prices and deregulation of prices of all crops except maize, maize meal and fertilizer.

Unfortunately, these changes were not sustained as there was policy reversal in May 1989, when price controls were reintroduced after the country had experienced food riots in Lusaka and on the Copper belt.

Njobvu and Shawa (1996) further observed that the new government of Dr. Chiluba viewed the economic and agricultural sector policies that were pursued by the UNIP government as not sustainable as these were characterized by excessive government intervention and control.

In this regard Mwanumo (1994, p.5) showed that maize subsidies as a percent of total government budget increased from 5.5% in 1984 to 13% in 1990. This level of subsidies was a great strain on the budget as it fueled the need to borrow, thus increasing the debt stock.

Decontrol of prices, removal of subsidies on fertilizers and other inputs and deregulation of exchange rate controls, had immediate effect on the cost of fertilizers and on interest rates. Thus, small-scale farmers experienced policy shocks as there was sky rocketing of prices of fertilizers and interest rates which made it difficult for them to borrow and repay their loans.

Since fertilizers became out of reach, the small-scale farmers failed to produce maize (as before), a cash and food crop through which most of them had entered marketed production during the period of subsidies. In a study conducted by Kajoba et al (1995) in chief Mumena's area of Solwezi District, in the North Western Province the progression of interest rates charged by Lima Bank during the 1993/94 cropping season were as indicated in table 2.

Table 2. INTEREST RATES CHARGED ON LOANS BY LIMA BANK FROM SEPTEMBER 1993 TO JUNE 1995

Period	Interest Rate (% Per Annum)
September 1993	120
October-November 1993	90
December - 1993	55
January-May 1994	88
June-September 1994	60
October-November 1994	45
December 1994-January 1995	35
June - 1995	35

(Source: Kajoba et al, 1995, p.62)

Table 2 shows that the interest rates were very high and small-scale farmers complained bitterly about this policy shock, which made it difficult for them to repay the loans and be able to remain productive.

Since the 1992/93 marketing season when liberalization of maize marketing was effected, small-scale farmers were to sell their maize either to the lending institutions (to facilitate loan recovery), or they had to find other private buyers who were supposed to have entered the market. But as the government had ceased to determine the maize floor price, it meant that small-scale farmers were to negotiate with new players who had begun to enter the market to fill the vacuum left by the government.

But the farmers had no such negotiating experience and it took much time for new players to fill the vacuum. Furthermore most private entrepreneurs that had entered the market, preferred to buy maize from farmers close to town as this reduced transport costs. Those private buyers who went to remote places were offering low prices for the maize because transport costs were high, especially due to impassable feeder roads that had deteriorated towards the end of UNIP rule.

These difficult changes that small-scale farmers were expected to adjust to in the agricultural sector as a result of liberalization policies, were compounded by adverse weather conditions, leading to a severe drought in the 1991/92 season. The drought which was considered the worst in that century, plus others that the country experienced in 1994/95, 1997/98, 2000/01 and 2001/02, impacted negatively on maize production throughout the country, making rural society more vulnerable to food insecurity.

These droughts reduced production of maize and other crops by as much as 60% nationally (Tiffen and Mulele 1994; Kajoba, 1998a). While area planted to maize in the late 1980s reached a peak of 1 million hectares, accounting for about 70 percent of the total cropped area, this declined significantly, probably due to policy and environmental shocks (ZVAC, 2005, p.9).

Furthermore, in cattle keeping areas such as the Southern, Central and Western Province, with 62% of the share of cattle in the traditional sector, the devastation of livestock by outbreak of cattle diseases (especially foot and mouth disease, east coast fever and contagious bovine pleural pneumonia) [CBPP], exacerbated the impact of drought and the food insecurity situation. (The Zambia Vulnerability Assessment Committee stated that there were 2,341,970 cattle by 2004 (in the traditional sector), representing a 11% drop from the 2000 estimate (ZVAC, 2005, p.11).

Since cattle are a source of draught power in the communities, their loss due to livestock diseases and the impact of drought, has led to reduced area planted to maize and other cash crops. Kalapula (2007) indicates that in a study of a community in Namwala District (Southern Province), small-scale farmers reported that cultivated area had declined by 50% due to loss of oxen for ploughing due to cattle diseases.

In addition, livestock losses have deprived the rural people concerned of a source of livelihood as cattle can be sold to raise income that can be used to purchase available grain and other requirements on the rural markets.

It has been argued that the neo-liberal policies have had positive impact. For instance, Kalinda (2002) observed that following the liberalisation of the economy, there have emerged private agribusiness enterprises in the country. These new players have replaced state owned parastatal companies which dominated marketing and input supply. Now, private sector players are involved in input supply, distribution, output marketing, agro-processing, trading and provision of finance.

Furthermore, Non Governmental Organizations (NGOs) like World Vision, Care International, Africare and others, have emerged and are important players in the provision of services to the farming community. The private sector was expected to drive economic growth, while the primary role of the government was to provide an enabling environment for such growth.

Mwefyeni (2003) found out in his research that liberalisation did not only lead to a decrease in per capita maize demand, but it also led to crop diversification as small-scale farmers produced and consumed other food crops such as sorghum, and millet; and he recommended that food policy interventions need to cover other cereals apart from maize.

The Zambia Vulnerability Assessment Committee also reported that with the importance of maize declining both in area planted and productivity and that of other cereals like sorghum, millet and rice remaining relatively stable, other crops like cotton, groundnuts and root crops (cassava and sweet potatoes), have been increasing their share in the livelihoods of Zambians. Between 1989 and 1999, the cropped area under groundnuts increased by more than 100 percent and the area for cotton increased by 65 percent. The total area planted to cassava increased by 65 percent while that for sweet potatoes increased by 54 percent (ZVAC,2005,p.10).

However, critics of government policy of agricultural liberalization and privatization of the economy argue that the changes brought by SAPs have caused unprecedented hardships on the Zambian people (Kapungwe,2003). The critics say that SAPs have caused poverty especially in the rural areas due to government withdrawal from participating in agriculture as was the case under the UNIP government. Others argue that SAPs have led to the loss of markets for maize, reduction in access to credit, input and extension support (Nyanga, 2006).

Kalinda (2002) states that poverty levels in Zambia in general are high, but they are much higher and more severe among the rural populations. In 1991, it was reported that 69.7% of all Zambians “were living below the poverty line with expenditure below the level to provide for basic needs” (Kalinda, 2002,p.61).

By 1996, the incidence of poverty was 82.8% for rural and 46.0% for urban areas. The highest incidence of rural poverty is found in Western Province at 94%, followed by North Western and Luapula Provinces at 92%.

It is further argued that despite occasional surpluses of maize which is produced in good crop years, Zambia’s food security situation remains precarious. Food insecurity has led to chronic malnutrition which has affected about 45 to 47% of the rural households, while wasting has inflicted about 6% of all rural households (Kalinda, 2002,p.67). Among children, poverty is manifested in stunting, wasting and being underweight (Kapungwe, 2003, p.34).

In terms of gender, it is contended that female headed households are more vulnerable to poverty than male headed households, probably because women headed households tend to be resource poor and lack labour that is needed to increase agricultural production. In Western Province, 93% of the women were poor with more than 85% being extremely poor (Kapungwe, 2003, p.26).

While critics blame the government for increased incidences of rural poverty, Kalinda (2002) is of the view that key factors that explain rural poverty are many, but they include lack of access to productive resources, geographical isolation (causing lack of access to services and rural markets), lack of productive assets (such as oxen and farm equipment), which constrain agricultural productivity, and lack of labour in some house holds. Lack of labour is exacerbated by the devastating impact of HIV/AIDS in rural communities, as scarce financial resources meant to purchase agricultural inputs are diverted to provide medical care over prolonged periods, thus undermining food security.

The government on its part is of the view that while initial focus of policy following the introduction of SAPs was on ensuring overall macro-economic stability, effort is now being made through the implementation of the Poverty Reduction Strategy Paper (PRSP), to deal with issues of economic growth, poverty reduction and the fight against HIV/AIDS (Mulungushi, 2003, p.74), whose prevalence rate nationally was at 14.4% in 2004 (CSO,2006, p.45).

It should be underscored however, that the policy shifts that were embedded in SAPs and environmental shocks due to droughts, livestock epidemics, and the HIV/AIDS pandemic, were a major turning point for Zambia after independence. These shocks had implications relating to vulnerability of rural society and they combined to undermine livelihoods and food security.

In as far as land tenure is concerned, the MMD government of Dr. Chiluba also created conditions for a major shift in how people perceived land. While the UNIP government of Dr. Kaunda promoted protectionist policies as stated earlier, the MMD government on the other hand introduced policies of empowerment (Kajoba, 1998).

Empowerment refers to the set of policies which embody the philosophical position that individual farmers, both men and women, together with local and external investors, should be allowed the opportunity to own land privately under leasehold title, so that such land may have market value, and be an incentive to those who possess it. Such land owners could become motivated to use it more productively and in a sustainable way as interested stake holders with secure title.

After a heated national debate, the MMD government enacted the 1995 Lands Act which was passed by Parliament. The law upheld the dual land tenure system, but made provision for those who hold land under customary tenure to convert it into a leasehold not exceeding 99 years. This provision was similar to that made

under UNIP rule in 1985, which allowed conversion of up to 250 hectares. But conversion under the 1995 Lands Act, was to take place only if the chief in accordance with customary law on tenure and the local government authority gave consent.

With the popularization of the perception under MMD rule, that land had a monetary value, in the process of economic liberalization, more individuals became motivated to apply for title deeds. Thus, in the first six years of MMD rule, a total of 28,107 offers for leasehold title were made by the Commissioner of Lands. Of these, 18,651 or 66.4% were offered to men, while 3,943 or 14.0 % were given to women. The public sector or others like parastatal companies were offered only 5,513 leases or 19.6% (Kajoba, 1998, p.307).

Therefore, there was a big difference between the number of offers for title deeds during the last six years of UNIP rule and those made during the first six years of MMD rule. More individuals (men and women) rather than the 'public sector' were empowered with title deeds under the MMD regime compared to those in the last six years of the UNIP era, where protectionism was practiced. The offers for title deeds include those made in the rural provinces.

The increase in title deeds offered after land conversion has not gone without criticism however. It has been argued by government critics that market based land reforms or conversion of customary land to leasehold tenure has led to exclusion, and displacement of local people; conflict between some chiefs and their subjects, and enclosure of common pool resources. These trends are associated especially with tourist operators who have fenced off or patrol river frontages (like the Zambezi, South Luangwa and Lake Kariba). Such measures have apparently prevented local people from accessing water, fisheries and watering their animals (Brown, 2005).

This outcry probably influenced the Mung'omba Constitution Review Commission (CRC, 2005), to recommend that common property resources like Islands, river frontages and lakeshores should not be privatized or sold off to private individuals (CRC, 2005, p.325).

The Chiluba MMD regime also came up with a comprehensive National Gender Policy with the aim of mainstreaming the empowerment of women in various sectors of the economy including land ownership. The policy document, however, bemoans the fact that the empowerment of women with secure title to land for 99 years, was being hampered by customary law, that only recognizes husbands and not wives, as owners of property as per the current constitution. Such a provision leads to a situation where property (including land) is grabbed from the wife or widow by the relatives of the husband upon divorce or death (GIDD, 2000, p. 30-31).

Thus, women small-scale farmers remain vulnerable and easily become marginalized and destitute upon divorce or the death of a spouse, despite having worked the land for many years. Such marginalization undermines women's food security status as well as that of their children, because they lose the land which is the main source of livelihood.

#### **4.3 Rebuilding the Resilience of rural society under the New Deal MMD Administration: 2001 to date.**

When President Levy Patrick Mwanawasa won elections in 2001, but on an MMD ticket, he called his administration, a New Deal. The government continued to promote private sector led developments in order to achieve growth in the economy. However, as part of the New Deal, the government undertook deliberate measures aimed at rebuilding the resilience of small-scale farmers who had experienced both policy (SAPs) and environmental shocks (droughts and floods), in the past ten years.

This rebuilding aimed at reducing poverty by increasing food production, as well as ensuring national and household food security through the promotion of the production by small-scale farmers of cereals, legumes, roots and tubers, tree and plantation crops (GRZ,2004), as well as livestock restocking.

To achieve these objectives, the New Deal administration undertook to implement two programmes. Firstly, a partial 50% subsidy for fertilizers was re-introduced in 2002 as the Fertilizer Support Programme. The subsidy was increased to 60% by 2007. It was meant to help small-scale farmers (both men and women), that had lost income as a result of the shocks, especially the 2000/2001 drought

In the Fertilizer Support Programme, a total of 120,000 farmers were targeted by providing them with a total of 24,000 tonnes of D- Compound and 24,000 tonnes of Urea fertilizer. This deliberate intervention led to an increase in production of over 360,000 metric tonnes of maize valued at K200 billion between 2002 and 2004 (GRZ/PRSP, 2004, p.23).

Secondly, the government introduced the Food Security Pack that was targeted at the vulnerable but viable small-scale farmers. This programme was to be administered by a government supported NGO, the Programme Against Malnutrition (PAM). Under this programme, 3,140 tonnes of basal and 3,217 tonnes of Urea fertilizer was distributed, together with 50 tonnes of maize seed, and 23 tonnes of sunflower seed (GRZ/PRSP, 2004,p.23). A total of 125,000 beneficiaries per year were reached, from a targeted number of 200,000 vulnerable but potentially viable farmers (GRZ/PRSP, 2004, p.39).

In order to rebuild or strengthen further the resilience of small-scale farmers so that they can fight rural poverty, the Mwanawasa administration, with the active participation of cooperating partners or the

international community, the United Nations System and both local and international NGOs, have undertaken measures such as budget support for infrastructure rehabilitation (roads, and bridges), livestock restocking (especially in the Southern and Western Provinces), where K1.5 billion has been spent, and the fight against the HIV/AIDS pandemic.

Other measures include borehole drilling (to provide clear drinking water to rural communities especially those that were affected by droughts), fish pond construction (to promote fish farming by small holders), and the distribution of donkeys under the Animal Draught Power Programme.

In addition, small-scale farmers were trained through the Golden Valley Agriculture Research Trust (GART) and in the Heifer Project International (HPI), in dairy, sheep and goat production. Goats were purchased and distributed to resource poor farmers on a pass on the gift basis (GRZ/PRSP, 2004, p. 22-23).

In order to sustain restocking, the government resumed vaccination of animals to fight livestock diseases. A total of K3 billion was released for the purchase of animal vaccines. About 52,721 animals were vaccinated against foot and mouth disease and 6,000 were screened for trypanosomiasis (GRZ/PRSP, 2004, p.23).

Small-scale farmers were encouraged to establish improved fallow plots through additional funding for the distribution of agro-forestry tree seedlings, and the seed multiplication programme to improve food security.

The New Deal administration also reintroduced a minimum floor price for maize, if the crop was sold through the Food Reserve Agency (FRA). The agency was established and mandated to be a buyer of last resort and holder of national strategic food reserves. The minimum price stood at K38,000 per 50 kg bag of maize in the 2006/2007 marketing season. This arrangement was meant to respond to the cry by small-scale farmers that they were not benefiting from maize production, as urban based entrepreneurs who bought maize from remote areas continued to offer uneconomic prices.

In order to promote export-led growth, the Mwanawasa government also provided funding for coffee, cotton and tobacco out grower schemes. These schemes promoted commercial production of paprika, fresh vegetables, cotton, coffee and tobacco, by farmers who organized themselves into groups. Other out grower schemes are spear headed by private agri-business companies who provide inputs, credit, extension and markets to small-scale farmers on a contract-farming basis.

Although the Zambia Red Cross Society (ZRCS) reported that critical vulnerability in Zambia remains primarily due to regional imbalances in agricultural production, and the inability to transport grain from surplus areas (in the higher rainfall regions) to deficit (semi-arid or drier) areas of Southern and Western Provinces (Development Zambia, Issue no.28, July,2007), it can be argued that the totality of the intervention measures undertaken by the New Deal Administration, together with the support from the cooperating partners, the UN system and NGOs, have contributed significantly to a steady recovery of the food production system in the country.

For instance, the quantity of maize produced has increased, as well as crop diversification to broaden the food base. Whereas a total of 869,964 metric tones of maize were produced in the 2002/2003 season, the amount increased to 1,056,676 metric tones in the 2003/2004 season, an increase of 17.8% (CSO,2006a, p.6).

Despite the flooding that was experienced in the 2006/2007 agricultural season, Zambia was able to enjoy a surplus of maize, and the country exported maize to neighbouring countries such as the Democratic Republic of Congo and Zimbabwe, and made a donation of 10,000 metric tonnes to the World Food Programme (WFP) from the 2006/2007 season harvest , after meeting internal requirements.

Vulnerability assessments have indicated that some diversification in food production is taking place although maize is still the major staple. It was indicated that some positive developments have taken place in the production of cassava and sweet potatoes. The total area planted to cassava and sweet potato increased by 65% and 54%, respectively, and the production of cassava flour has more than doubled in the past ten years (ZVAC, 2005,p.10).

In the same vein, Zulu et al (2007) state that Zambian small-holder agriculture has become more diversified over the past decade, with maize, cassava, groundnuts, cotton, horticultural crops and animal products all becoming important sources of cash revenue, that can be used to purchase food on the market.

The Southern African Development Community (SADC) Food, Agriculture and Natural Resources Vulnerability Assessment Committee (SADC/VAC, 2002), indicated that in Zambia, the national cereal gap was reduced by nearly 60% by including cassava in the food balance analysis using the maize equivalent. Furthermore, cereal deficits are partially covered through informal cross-border trade.

In as far as land tenure is concerned, the Mwanawasa administration has continued to uphold the vision of the MMD of empowering citizens (men, women and the youth) with “secure, fair, and equitable access and control of land for sustainable socio-economic development...” (FNDP, 2006, p.70).

The overall goal is “to have an efficient and effective land administration system that promotes security of tenure, equitable access and control of land for the sustainable socio-economic development of the people of Zambia” (FNDP, 2006, p.70).

It is hoped that during the duration of the Fifth National Development Plan period from 2006 to 2010, a National Land Policy will be put in place to guide the governance of land, and “promote security of tenure through registration of private and communal rights” (FNDP, 2006, p.70).

As a matter of fact, the second Draft Land Policy which is being debated states that in order to advance the advantages of customary tenure practices, the government will “recognize the rights of land users by defining these rights through formal survey and registration so that every one irrespective of social status, gender or origin can have similar rights to land” (GRZ,2006,p.14).

In order to reduce vulnerability of rural society in Zambia and improve or rebuild resilience of food production or livelihood systems through secure tenure, there is need to embrace and implement the above stated intentions of empowering smallholder farmers by registering their land rights on customary land in villages.

These intentions are similar to the strategy being followed in Uganda on how to integrate statutory and customary tenure which is described by Mwebaza (1999) cited in Kajoba (2003, p.311). In the Ugandan case, there is legal provision that all citizens owning land under customary tenure may acquire a certificate of customary ownership. These certificates may be leased, mortgaged, and pledged where the customs of the community allow.

In the case of Zambia where a market and private sector driven economy is being constructed, it may be a useful way to empower rural cultivators (especially women and the youth) with more secure tenure over land by implementing a strategy where fields that are currently being tilled on customary land are registered and individuals given certificates of customary title, in the context of a dual land tenure system.

Such titles could be issued by local government institutions that include traditional rulers and their advisory councils, in some form of a decentralized system of land governance. The customary certificates of title may be leased, mortgaged, pledged and even sold, where rural land markets have emerged.

Individuals holding such customary certificates of title, may be able to rent or sell their fields if they decide to migrate to an urban centre for a long period of time, or they may lend the fields to their relatives with or without a consideration in money or in kind, as part of social capital.

Such certificates of customary title could empower the cultivators with a strong sense of ownership and control over their land, and use it more productively even by obtaining agricultural credit, while using the land as collateral.

This kind of empowerment could be greatly appreciated by women farmers, especially widows, divorced, single and even married women, who tend to be marginalized over land in most communities since customary law supercedes any other provisions intended to mitigate the plight of such women (ECA/SA, 2003; GIDD, 2005).

If women obtained certificates of customary title to the fields that they till, they could opt to remain on their land upon being widowed or divorced, or could sell their property and relocate to settle elsewhere with some income. This option could be better than what currently prevails, as they are made to become destitute after land has been grabbed away from them by former husbands or relatives of the deceased spouse, despite having worked such land for a considerable length of time.

When the certificates of customary title are being issued following registration of fields, the traditional authorities will be expected naturally, to reserve some portion of land in trust for future generations, especially for children, and others with special needs, such as orphans, the disabled, those afflicted with HIV/AIDS, the elderly and other vulnerable individuals.

In addition, land needed for development by both local and external investors could be released from such land that is held in reserve, and individuals should still be able to access common property resources such as forests, fisheries, wild game, rivers, lakes, pasture and community infrastructure like dams and boreholes.

The implementation of such an empowerment strategy could be done in phases, beginning with a pilot project, probably in an area where small-holder commercial agriculture is more developed; where pressure over land is more acute, and where demand for land and secure tenure are the generative themes among the rural people.

It may be argued that such registration and issuance of certificates of customary title, which still recognizes the place of common property resources, is a transitional step towards a gradual or evolutionary individualization of land tenure. Such a gradual approach is necessary in order to avoid alienating the traditionalists and other interest groups and because rural land markets are not yet fully developed in most parts of Zambia.

Furthermore, a gradualist approach as part of a long term vision that hopes to achieve a transformation of rural society from being agrarian based to a modern market based industrial state, is necessary. This is so because industrialization that should absorb the surplus population from rural areas, to avoid landlessness, is still quite slow in Zambia.

## 5.0 CONCLUSION

The paper has shown the complex interplay between vulnerability and resilience of rural society in the historical perspective. It has shown that pre-colonial ecologies of agricultural systems in some parts of Zambia, such as the *citemene* system of the Bemba (in the high rainfall zone in Northern Zambia), the cattle based system of the Tonga (in the tsetse fly free Southern Zambia) and the Flood Plain cultivation and transhumance system of the Lozi (in Western Zambia), were sustainable and resilient. This is so because they provided for the cultivation of a broad base of cereals, root crops, pulses and fruit, which ensured relative household food security within the context of communal land tenure.

Although these food production systems were vulnerable to environmental shocks like droughts, floods, locust invasion and livestock diseases, they were nonetheless resilient, and they ensured food security, as per the chronicles of European travelers like David Livingstone.

The imposition of colonial rule and the associated policies created mixed responses in the food production systems. While the policies of land alienation, the creation of native reserves and labour migration made the Bemba and Lozi systems vulnerable due to the loss of labour, the Tonga people were able to exhibit resilience by adapting and adopting the new methods of cultivation that were introduced by European settler farmers and missionaries.

The Tonga rapidly adopted hybrid maize, the ox-drawn plough and began to transform communal land tenure into individual holdings or tenure, in which they demanded for individual title to land, contrary to tradition.

The paper has shown further that with the attainment of political independence in 1964, the UNIP government of Dr. Kaunda made excessive interventions in order to promote agriculture and rural development. This was done by providing subsidies on maize production and by establishing an elaborate infrastructure for maize marketing, credit provision, extension, pricing and research.

This heavy intervention created dependence on maize (while other food crops were neglected), and on government, by small-scale farmers, but did not lead to food self-sufficiency that the UNIP government hoped for. Strong government control of the economy also led to protectionist land policies that constricted individual tenure but promoted communal tenure.

When the MMD government of Dr. Chiluba came to power in 1991, it introduced neo-liberal policies of privatization and agricultural market liberalization, together with a strong drive towards individualization of land tenure by popularizing conversion of communal tenure to leasehold tenure. These reforms were intended to create a market based economy that was driven by the private sector, instead of being state driven as was the case under UNIP rule.

Agriculture market liberalization removed the subsidies on fertilizers, maize marketing, transportation, storage, and state controlled pricing of agricultural commodities; and subsequently led to the collapse of marketing boards and credit institutions.

Critics of the government argue that the economic policies that were introduced by the MMD government under SAPs, led to the vulnerability of rural society and bred food insecurity and wide spread rural poverty.

The paper goes on to show however, that the New Deal, MMD administration of President Mwanawasa, has begun to make deliberate and targeted interventions, with the support of the international community or cooperating partners, the UN system and NGOs. This is being done through the reintroduction of partial subsidies on fertilizers, provision of some fertilizers and maize seeds, cattle restocking and vaccinations, the re-introduction of a minimum floor price for maize, and the provision of a market for maize and other crops through the FRA.

It is argued that these and other interventions seem to be helping in rebuilding the resilience of rural society (through crop diversification) despite continuing environmental shocks like droughts and floods. It is also contended that this emerging resilience should be strengthened further by balancing the roles of individuals, the state, the private sector and the support of cooperating partners, the U.N. system and NGOs, and by adopting a national land policy that can empower all rural cultivators (especially women and the youth). These groups need more secure land rights or tenure, in the context of an emerging market economy, but without depriving the cultivators access to common property resources, which contribute to sustained livelihoods and household food security.

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## ACKNOWLEDGEMENT

I would like to thank Professor Shuhei Shimada, Dr. Chieko Umetsu, and the Director General Professor Narifumi Tachimoto of the Research Institute for Humanity and Nature, for inviting and providing financial support to me, to come and conduct desk research on Zambia for three months, as part of the Vulnerability and Resilience of Social Ecological Systems Project.

I would also like to give thanks to all staff, colleagues and friends, who made my stay here comfortable and supported me in many different but equally important ways to undertake and complete my research successfully.

Special thanks are extended to Ms. Yuki Irie for typing the paper and providing logistical and moral support to me from the time I arrived at RIHN up to the end of my project and to Dr. Thamana Lekprichakul for helping in preparing the Power Point.