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Resilience of Rural Households and Communities to Economic Shocks, HIV/AIDS and Recurrent Droughts: The Case of Households and Communities in the Mwami Area, Chipata, Zambia

By

Chileshe L. Mulenga

Visiting Fellow, Research Institute for Humanity and Nature

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Vulnerability and Resilience of Social-Ecological Systems

RIHN Research Project E-04

Research Institute for Humanity and Nature (RIHN)
Inter-University Research Institute Corporation, National Institutes for the Humanities

大学共同利用機関法人 人間文化研究機構
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ABSTRACT

Rural economies in sub-Saharan African countries that undertook economic policy reforms under the auspices of International Financial Institutions have been described as “harsh, challenging, hard and difficult’. These economies have been characterized by decline and increased impoverishment of their inhabitants. Such outcomes are at variance with what was expected of the policy reforms and what has been attributed to them at the national level. At the national level, the policy reforms have been credited with stabilizing the national economies and even robust growth averaging 5% over the last decade.

Field investigations in the Mwami Area of Chipata in Eastern Zambia and an extensive review of literature confirms the experience of economic decline and growing impoverishment of rural households and communities reported in all sub-Saharan African countries that reformed their economies with the support of the International Financial Institutions. Economic policy reform in Zambia seem to have helped produce a harsh rural economic environment characterized by economic decline and increased poverty. These unexpected outcomes have been attributed to the neglect of public investment in agriculture and rural development. The situation has, however, been worsened by failure of rural households to adapt to the triple shocks of economic reform, HIV/AIDS and environmental change.

Failure of rural households to adapt to the liberalized agricultural regime has been due to the economic reforms having coincided with recurrent droughts and shocks emanating from the adverse effects of HIV/AIDS. Recurrent droughts in the 2000/2001 and 2001/2002 agricultural seasons forced most households in the Mwami Area of Chipata to exhaust their stores, including livestock, which jeopardized their future recovery. The increased cost of agricultural in-puts especially hybrid maize seeds and fertilizers worsened the situation further, as it forced most households to reduce the amount of land devoted to maize, their main staple and commercial crop. For the households touched by the HIV/AIDS pandemic, the grave economic situation was worsened by loss of their most productive labour to ill health and deaths. This state of affairs set off a process of impoverishment and marginalization from the main stream national economy and created a general sense of despair.

To make ends meet, most households in the Mwami area had turned to direct exploitation of natural resources, especially the forest and wildlife resources. These resources were, however, being exploited with basic technologies, which neither enhance productivity nor protect or ameliorate environmental degradation. Thus, the livelihoods based on direct exploitation of natural resources with basic technologies are not likely to be sustainable, especially in the light of the environmental change, characterized by increasing surface temperatures and reduced rainy seasons. Measures are therefore needed to help the rural households in the Mwami area and elsewhere in rural Zambia to adapt to the liberalized economic environment, changing environmental conditions and HIV/AIDS.

Keywords: resilience, HIV/AIDS, rural households, community, economic reform, Eastern Zambia

経済的ショック、HIV/AIDS、旱ばつへの農村世帯とコミュニティのレジリアンス
―ザンビア・チパタ県ムワニ地区の世帯とコミュニティの事例

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要旨

国際金融機関の指導の下に経済政治改革を実施したサブ・サハラアフリカ諸国の農村経済は、「厳しい、障壁がある、難しい、困難である」等と言及されてきた。これら農村経済は、衰退と住民の貧困増大を経験してきた。その結果は、政策改革で期待された結果とは異なり、国家レベルではその改革のせいだと考えられていたものとも異なっていた。国レベルでは、政治改革は国家経済を安定化させ、過去１０年の間に平均５％の安定した成長を達成させることに貢献した。

東部ザンビアのチパタ市にあるムワニ地区でのフィールド調査と文献調査の結果は、国際金融機関の支援によって経済改革を行ったすべてのサブ・サハラアフリカ諸国で報告されたと同様の経済的衰退、地域世帯とコミュニティの貧困の拡大を明らかにするものであった。ザンビアにおける経済政策改革によって、地域の経済環境は経済後退と貧困の拡大という結果をもたらした。これら予期せぬ結果は、農業と地域開発への公共投資の軽視が原因であった。しかし、この状況は経済改革、HIV/AIDS、環境変化の３重苦へ地域世帯が適応できなかったことによってさらに悪化した。

農村世帯が農業自由化に対応できなかったことは、近年の旱ばつと HIV/AIDS の負の影響から派生したショックが経済改革と同時に進行したことによる。2000/2001 年及び 2001/2002 年の農作期に起こった旱ばつによって、チパタ市ムワニ地区のほとんどの世帯の食料庫が空になり、家畜は回復の目途が立たないほどに打撃を受けた。ハイブリッド・トウモロコシ種子と肥料などの資材価格の上昇は、さらに状況を悪化させ、ほとんどの世帯は主食と換金作物であるトウモロコシの作付面積を減少させた。また HIV/AIDS 患者が出た世帯では、病気や死亡によって最も生産的な労働力の損失というさらなる経済状況の悪化が起こった。この状況は、貧困のプロセスへ移行し、国家経済の主流から取り残されることを意味しており、失望感をつのらせた。

この結果、ムワニ地区のほとんどの世帯は森林資源や野生動物などの天然資源採集へ転換した。これらの採集は、伝統的技術に依存し、生産性も高くなく環境の荒廃を保全・改修するものではなかった。これらの天然資源採集は、温度の上昇や雨季の減少等の環境変動下ではとくに持続的ではない。ムワニ地区のみならずザンビアの農村世帯が自由化した経済環境、環境変動、HIV/AIDS などへ適応するための支援が必要とされる。

キーワード： レジリアンス、HIV/AIDS、農村世帯、コミュニティ、経済改革、東部ザンビア

Resilience of Rural Households and Communities to Economic Shocks, HIV/AIDS and Recurrent Droughts: The Case of Households and Communities in the Mwami Area, Chipata, Zambia

1.0 Introduction

This paper analyses the resilience of rural households and communities to adverse economic conditions, high prevalence of HIV/AIDS and recurrent droughts in the Mwami Area of Chipata, in the Eastern Province of Zambia. The paper draws on findings of a field study of the Mwami area, which sought to establish household and community capacity and competence to prevent and mitigate HIV/AIDS in the context of a harsh rural social and economic environment and high HIV/AIDS prevalence. The rural economies of African countries, including Zambia that had to restructure their economies in the 1980s through the 1990s under the stewardship of the International Monetary Fund (IMF) and the World Bank (International Financial Institutions) have been described as harsh, challenging, hard and difficult (Havnevik et. al., 2008; Jayne et. al., 2006; IFAD, 2005). This is mainly due to two main factors: first, the poor state of essential rural social and economic infrastructure, especially roads, schools and health institutions; and secondly, neglect of small-scale agriculture embedded in the economic reforms promoted by the international financial institutions since the early 1980s. These reforms neglected and/or underestimated the critical role of public investment in agriculture and rural development. In consequence, agriculture and rural development in Zambia and other countries that reformed their economies under the supervision of the international financial institutions have been characterized by declining agricultural productivity and stagnation (Havenik, et al, 2008).

The study of household and community capacity and competence to prevent and mitigate HIV/AIDS assumed that knowledge of household and community capacity and competence to prevent and mitigate HIV/AIDS could provide sustainable local initiatives and strategies for prevention and mitigation of HIV/AIDS. Findings of the study, however, showed that, most rural households and communities in the Mwami area of Chipata had hardly any capacity and competence to prevent and mitigate HIV/AIDS on a sustainable basis. Lack of capacity and competence to prevent and mitigate HIV/AIDS in the communities in the Mwami area of Chipata was evident from two main factors: first, from the poor knowledge of the nature of HIV/AIDS among young people and community leaders; and secondly from the absence of any sustained locally initiated activities to prevent and mitigate HIV/AIDS in the area, prior to the introduction of the Local Community Competence Building (LCCB) Program by the Churches Health Association of Zambia (CHAZ). The latter also suggested a serious lack of leadership and agency on issues relating to prevention and mitigation of HIV/AIDS in the Mwami area of Chipata.

Community leaders and opinion makers in the Mwami area acknowledged failure to provide leadership for prevention and mitigation of HIV/AIDS. The failure was however attributed to wide-spread poverty and vulnerability. It was, for example, observed that, poverty in the Mwami area had become so entrenched that, most households had hardly any resources to spare for the needy in their communities. This generalized impoverishment was attributed to social and economic policies introduced in the post 1991 period, when the Government reformed the economy with the support of the international financial institutions. The structural adjustment programs and their successor policies, the so-called "Poverty Reduction Strategies" have, therefore, been associated with entrenchment of extreme poverty in the Mwami area and rural Zambia at large. This is despite the stabilization of the national economy, which too has been attributed to the same policies. It is nevertheless evident that small-scale agriculture and the rural sector in general have experienced declines in productivity and growth under the liberalization policies promoted by the international financial institutions (Stewart, 1991). This is also evident from high levels of poverty in the rural areas. The Living Conditions Monitoring Surveys, for example, show that poverty is not only predominantly rural, as the bulk of the poor live in rural areas, but that it has remained high despite the national economy positing positive growth since 1999 (CSO, 2007).

The dire economic circumstance of most rural households and communities in countries like Zambia that had to restructure their economies under the supervision of the international financial institutions, have been worsened by the high incidence of HIV/AIDS and recurrent droughts (Drimie, 2004; Jayne, et. al., 2006; Jain, 2007). With regard to HIV/AIDS, Southern Africa is the most affected region, accounting for the bulk (32%) of the global HIV/AIDS cases. National HIV/AIDS prevalence rates in eight Southern African countries, including Zambia are among the highest in the world, as their national HIV prevalence rates exceed 15% of their adult populations (UN AIDS, 2008). The heavy burden of HIV/AIDS translates into high incidents of ill health and deaths, low productivity and worsening dependency ratios. The latter is due to increased need for care and support for orphans and the elderly who lose their breadwinners.

Coping with the adverse effects of HIV/AIDS at household and community levels in rural areas has been worsened by the difficult economic conditions and frequent occurrence of droughts and flooding, especially in the last two decades (Jain, 2008). It is therefore not surprising that the field study of the Mwami area suggests that, like other rural households and communities, the residents of Mwami area have had to contend with the triple challenges of adverse economic conditions, high HIV/AIDS prevalence and recurrent droughts and floods, particularly in the last 20 years. These shocks set in almost at the same time, but have received variable amounts of attention both locally and internationally. The economic crisis received most attention from the mid 1980s to the early 2000s, while the HIV/AIDS situation has received

most attention since 2005. Recurrent droughts and floods and the adverse rural economic conditions have, on the other hand, received only scanty attention. Unless, the three shocks are addressed, however, the livelihoods of rural households and communities, which are directly dependent on natural resources, cannot be assured.

1.1 Approaches to the Study

This section describes the sources of data for the paper and how the data was collected. Primary data was drawn mostly from the field study of households and communities in the Mwami area. Information on the political economy of agriculture, rural development and the wider environmental changes was drawn from primary and secondary sources ranging from policy documents, studies and papers published on both Zambia and other African countries, with the experience of economic restructuring promoted by the international financial institutions. The study, therefore, drew on primary data, previous studies and literature to obtain the socio-economic and environmental context within which, rural households earned their livelihoods in the Mwami area and rural Zambia in general.

The field study which provided the primary data was based on a household survey, in-depth interviews and focus group discussions with young people, opinion and community leaders respectively. The survey sought to establish the social and economic characteristics of young people in the Mwami area, their knowledge of the nature of HIV/AIDS, sexual behavior and attitudes to HIV/AIDS, and people living with and affected by AIDS. Observations, in-depth interviews and focus group discussions with young people, opinion and community leaders were used to obtain information on household and community responses to HIV/AIDS and to establish whether any sustained community initiatives aimed at prevention and/or mitigation of HIV/AIDS had emerged in the area.

The observations focused on how people responded to the challenges posed by HIV/AIDS and their reactions and behavior towards people living with or suspected to be living with HIV/AIDS. The observations were systematically recorded in field diaries on a daily basis during field work, and were based on the researchers' encounters with the residents of the Mwami area, on issues relating to prevention and mitigation of HIV/AIDS and the welfare of people living with HIV/AIDS.

1.2 Organization of the Paper

The rest of the paper is divided into six parts, beginning with part 2, which provides a conceptual framework for analyzing resilience of rural households directly dependent on natural resources, in the context of limited access to capital and technological innovations. Section 3 is a review of the political

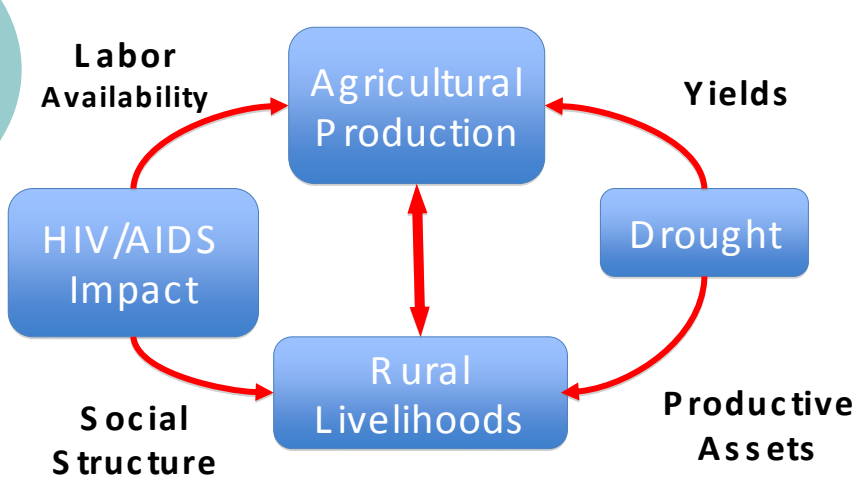
economy of agriculture and rural development in Zambia, within which the households and communities of the Mwami area had to create their livelihoods and means of sustenance. The HIV/AIDS situation and its implications for welfare of rural households is then analyzed in part 4, before turning to recurrent droughts and floods in more recent years, and their implications for the welfare of households that are directly dependent on natural resources in a harsh economic environment, with a high burden of ill health coupled with high dependency ratios in section 5. The responses of households in the Mwami area to the concurrent triple shocks of: adverse economic conditions, HIV/AIDS and recurrent droughts and floods are then discussed in part 6. Some conclusions and reflections on the future of rural livelihoods based on direct exploitation of natural resources, eradication of rural poverty and promotion of human security are given in section 7.

2.0 Conceptual Framework

To examine the resilience of rural households and communities in the Mwami area of Chipata under difficult economic conditions, high prevalence of HIV/AIDS, and recurrent droughts, we chose a conceptual framework that posits that resilience and sustainability of livelihoods that are directly dependent on environmental (natural) resources depends on the socio-economic and environmental realms remaining in equilibrium. This is especially the case, because changes in either the socio-economic or the physical environmental realms have a bearing on livelihoods and state of the socio-economic and physical environmental realms. This is particularly so where access to capital and technological innovations is absent or limited, like in the Mwami area of Chipata and rural Zambia in general. The conceptual framework is reproduced in diagrammatic form in figure 1.

Rural livelihood outcomes are shaped by the interaction of livelihood activities with the physical environment and the political economy. The latter produces the socio-economic context within which people exploit the physical environment to produce livelihoods. The sustainability of livelihoods is, however, dependent on the socio-economic context, remaining in equilibrium with the physical environment and vice-versa. Any imbalance in the equilibrium between the socio-economic and physical environmental realms, unless backed up by sustainable technological innovations to prevent imbalances in the equilibrium results in degradation in either the physical or the socio-economic realm. Thus, when equilibrium cannot be established between the socio-economic and physical environmental realms, the livelihoods based on direct exploitation of natural resources become unsustainable, and disasters occur.

Figure 1. Conceptual Framework



The proposed conceptual framework is very similar to the diagnostic approach for going beyond panaceas" proposed by Ostrom (2008) in that, like the conceptual framework being applied, Ostrom (2008) contends that:

> "To understand sustainability of socio-ecological systems (SES), we need to build a coherent understanding of how systems are progressively linked to ever larger systems and how upward and down causation linkages occur within a SES as well as across diverse sectors and scales" (Ostrom, 2008, p. 249).

Unlike Ostrom (2008), however, we have placed a cap on the complexity of the socio-ecological system, by limiting technological innovations and capital to what is likely to be available in a poor socio-economic environment in which people have limited access to capital and technological innovations. Their resources are confined to their labour and some handy tools, hoes and axes with which they exploit the environmental resources to earn livelihoods. It is, therefore, our contention that, in a poor socio-economic context as in the Mwami area and most of rural Zambia, unless the shocks arising from the adverse agricultural and rural development policies, HIV/AIDS and recurrent droughts are addressed, the resilience of rural livelihoods, households and communities cannot be assured. This is because the social, economic and environmental realms are interlocked. As a result, stress in any of the three realms has a bearing on the other two. It is, therefore, critical to address these shocks, because not only do they have a bearing on the immediate livelihoods and welfare of rural households, but have wide and long-term implications for human security.

3.0 Political Economy of Agriculture and Rural Development in Zambia

This section analyses the political economy of agriculture and rural development in Zambia. The section provides the context and socio-economic factors that have shaped the dynamics of Zambian agricultural and rural development, as well as the rural livelihood choices available to rural people, like those in the Mwami area. To place, Zambia's political economy in its broader global and local context, we trace the evolution of the political economy of agriculture and rural development from the colonial period when its current structures were established. We also review all the subsequent socio-economic policies and attempts to modify the structures of the economy of Zambia.

At independence in 1964, Zambia's economy was a typical mono-economy based on an advanced enclave mining economy with an underdeveloped agricultural and rural sector. The latter was largely a source of cheap labour and food for the mining sector. Farmers could, however, be placed in three main categories. The large-scale European commercial farmers, Intermediate commercially oriented African farmers and the small-scale subsistence oriented African farmers. The latter are also referred to as smallholder and peasant farmers (Bryceson, Copestake; Wichern, et. al., 1999). The large-scale commercial farms were and continue to be predominantly in the hands of white farmers of European/South African descent and corporate entities. The large-scale farms are mainly along the line of rail between Livingstone and Chililabombwe, as well as in the outlying farming blocks established during the colonial period as European farming blocks. These were mostly around Chipata, Mkushi and Mbala. The intermediate commercially oriented farmers (also called emergent farmers) are predominantly of African descent and like the large-scale farmers are predominantly in the areas adjacent to the large commercial farms that straddle the line of rail and outlying commercial farming areas referred to above.

The intermediate farmers are, however, concentrated in Southern, Lusaka and Central Provinces, and to some extent in the Eastern Province, particularly around Chipata, as well as in the areas around Mbala and Nakonde in the Northern Province. The subsistence oriented small-scale farmers are predominantly peasant in character and are found throughout rural Zambia. They are, in particular, concentrated in the regions of Zambia that were designated as "labor reserves" rather than centres of commercial production during the colonial era, such as Luapula, Northern, North-Western and Western Provinces (Heisler, 1974).

The main difference between the three categories of farmers is the scale of capital at their disposal. The large-scale commercial farmers employ higher amounts of capital. This is evident from the size of farm holdings. They range from 20 to more than 60 hectares. They also employ expensive equipment and

technology in their operations. The large scale commercial farms are therefore the most mechanized farms in Zambia. Tractors, irrigation equipment and even combine harvesters make up some of their essential equipment. The choice of agricultural products on the large-scale commercial farms is highly influenced by the scale of access to capital, market conditions and profitability of the different agricultural products that can successfully be produced in Zambia. Traditionally, however, the large-scale commercial farms have produced maize, soybeans, and wheat, sunflower, poultry and dairy products. The productivity of the large-scale farms in Zambia is believed to be equivalent to large-scale farms elsewhere (Jayne et. al., 2006).

The intermediate farmers have land holdings of between 5 and 20 hectares. Although they are not as highly commercialized as their large-scale counterparts, they use at least the ox-drawn plough for preparation of land and production enhancing technologies, such as hybrid seeds and fertilizers. The very successful intermediate farmers have even acquired tractors. Limited access to capital, including agricultural knowledge and skills limit the choice of agricultural products on the intermediate farms. Production on intermediate farms is thus confined to a narrow range of crops with an assured local market, such as cotton, tobacco, sunflower and soybeans. Maize is also particularly popular, because it meets both subsistence and commercial needs (Kalinda, 2002).

The small-scale farmers cultivate land holdings ranging between 0.5 and 2.0 hectares at the most. In the traditionally cattle keeping areas, including the Mwami area of Chipata the better off small-scale farmers also use the ox-drawn plough for land preparation. Most small-scale farmers in Zambia, however, do not own cattle and therefore do not use the ox-drawn plough. The majority use hand tools, and especially the hoe and axe to prepare their land, and carry out other farm operations. Production on small-scale farms is constrained by lack of access to capital, knowledge and skills for production of different crops. Land management practices also vary very little with little focus on conservation of land resources. Meeting subsistence needs appears to be the primary reason for engaging in agricultural production for most small-scale farmers. Any surplus is then sold to meet other needs, including such basic needs, as clothing, health and education (Lombard and Tweedie, 1972).

The large-scale farms have historically enjoyed most of the public investment in agricultural research, extension and marketing. During the colonial period in particular, agricultural research sought to resolve constraints to production experienced on the large-scale and medium-scale farms, which were all farmed by the white settlers. These farmers were encouraged to settle in Northern Rhodesia by the BSAC up to 1923 and British administration between 1924 and the 1950s. For the BSAC, the main motivation was to

promote land sales to enable the company make some return on its investment in the establishment of the new colony. Land sales became, especially important because contrary to expectations, it turned out that the new colony did not have mineral wealth comparable to the Rand of South Africa. The BSAC thus offered any would be white settlers extensive amounts of land at low prices. For the British administration promotion of white settler agriculture was motivated by the need for affordable locally produced food, to meet the food requirement of the growing mining population, and to help keep wages in the mining sector in check. Keeping the costs of mining low was critical to maintaining the international competitiveness of the Northern Rhodesian mining sector. Agricultural policy, research and extension services, therefore, sought to help the white settler farmers to produce adequate maize stocks to meet the food security of the rapidly growing mining towns.

To stimulate maize production, which was seen as essential to meeting the food security needs of the mining towns, the Government chose to guarantee a market for all the maize produced by the white settlers. It also offered the white settlers subsidized agricultural in puts. These policies were, however, confined to the white settler farmers along the line of rail. A Maize Control Board, which latter became the Grain Marketing Board (GMB) was accordingly established by the Government in 1936. Its mandate was to buy all the maize offered for sale and to distribute seeds and fertilizers to the farmers along the line of rail in line with the Government agricultural policy. A few years latter, however, a Rural Agricultural Marketing Board (RAMB) was established with responsibility to procure maize from the outlying settler farming blocks in Chipata, Mkushi and Mbala, and to distribute the subsidized agricultural in puts to these areas. The justification for the RAMB was to help meet the demand for maize, especially when the GMB was not able to meet the demand. These boards had monopoly of buying maize from the farmers and selling it on to the millers. The boards set the prices, which varied between seasons in line with demand and supply, as well as between places or regions. This is how Government intervention in agricultural production and marketing begun, which continued into the post independence period (Wichern et. al., 1999).

The GMB and RAMB operated side by side after independence providing services to their main areas of focus until 1969, when they were merged to form the National Agricultural Marketing Board (NAMBOARD). The mandate of the new organization was to buy all agricultural products with the exception of cotton, milk, beef, pork and horticultural products, which were catered for by their own specialized state-owned marketing agencies. Cotton and milk, for example, were catered for by the Lint Company of Zambia (LINTCO) and the Zambia Dairy Produce Board (ZDPB) respectively, while the horticultural products and pork were bought by the Zambia Horticultural Products (ZAMHORT) and the

Zambia Pork Products Limited (ZPPL) respectively. The prices offered for maize also continued to be different between regions to reflect the higher transport and storage costs incurred in buying maize from the outlying rural area, distant from the main urban markets.

The agricultural policy while remaining the same in the immediate post independence period, expanded to include the African small-scale farmers throughout the country, because the new Government sought to promote mass production by the masses to bring them into the main stream economy. Agricultural research and extension gradually also shifted towards promoting productivity of the majority small-scale farmers. The small-scale African farmers deemed incapable of delivering adequate quantities of maize became the new focus of meeting the country's maize needs. Their exclusion during the colonial period had more to do with keeping Africans as a source of cheap labour for the European owned enterprises in various sectors than incapability to meet the food needs of the emerging urban centres. This was evident from little tolerance for independent commercial activities by Africans. The African population was in fact actively discouraged by the Government to engage in commercial activities as entrepreneurs through the laws governing urban residence and commercial activities. Until 1948, for example, Africans could only live in towns as guest workers. Their urban residence was in fact tied to employment with particular employers for fixed periods. Expiry of the residence permit or dismissal by the employer meant that one had to return to the native reserve one had come from (Heisler, 1974).

Participation in commercial activities within the emerging towns was also not an avenue open to Africans, because the towns were on crown land, which was for the exclusive use of the European settlers. Crown land was, however, the most well serviced land with a railway line and well maintained feeder roads passing through it. The constraints imposed on African entrepreneurial activities explain the emergence of commercially oriented farming in the native reserves and trust lands closer to the railway line in Southern, Lusaka and Central Provinces (Chipungu, 1980). Similarly, the first African entrepreneurs generally established their businesses on native reserves or trust lands bordering crown land, for example, Safeli Chileshe in Lusaka (Chileshe, 1999).

The African nationalist government, which took the reins of power in 1964, continued the policy of intervention in agricultural production and marketing and used the same institutions established by previous administration to implement its policies. The main shifts were confined to extension of public services to the African population. Hence, the agricultural development institutions became more inclusive in the delivery of services than before. This meant extension of agricultural services to the small-scale farmers in full, complete with the bias towards maize. Most significantly, however, the post

independence government sought mass production of maize by the masses. This was an attempt to integrate the subsistence oriented small-scale farmers into the main stream economy. It was also an attempt to undermine large scale capitalist oriented agriculture. In that regard, the then Minister of Rural Development, Reuben Kamanga observed that:

> "We are after production by the masses-not mass production. Ten good farmers earning K200 per year are a great national asset than one good farmer earning
> K2 000, while nine subsistence farmers earn nothing" (Hon. R. C. Kamanga, Minister of Rural Development, January 1970 quoted by Lombard and Tweedie, 1972).

Although the Government was not enthusiastic about large-scale capital intensive agriculture, it avoided tempering with the property rights of the large-scale farmers. It nevertheless changed the land tenure through the 1975 Land Conversion Titles Act, which converted all freehold titles into 99 years leasehold titles. The agricultural sector, however, escaped the wave of nationalization that affected the mining, industrial and commercial sectors between 1968 and 1970.

Post independence reforms in the agricultural sector in Zambia have tended to be gradual. This is perhaps due to its rather small size in terms of its contribution to GDP, export earnings and formal employment. The establishment of NAMBOARD through the merger of the GMB and RAMB in 1969 was eventually followed by a new agricultural policy that sought attainment of self-sufficiency in maize production. This policy was anchored on the promotion of production by the masses rather than mass production per se. To achieve the new policy, the Government offered the same prices for maize and fertilizers throughout the country. The agricultural in-puts, outputs and transportation were all heavily subsidized to keep urban wages in check. State intervention throughout the agricultural production cycle helped transform maize into the national staple food, replacing the traditional staples like cassava, millet and sorghum that were the staples in the rural areas away from the line of rail, prior to the nation-wide promotion of maize production.

The nation-wide promotion of maize cultivation resulted in increased maize production, especially in the outlying regions, which until now had not been involved in any commercially oriented agricultural production. State promotion of maize production eventually led to small-scale farmers supplanting commercial farmers as the major suppliers of marketed maize. The contribution of the small-scale farmers to marketed maize in fact increased to nearly 80% of all the marketed maize by the 1980s. The decrease in the contribution of commercial farmers to marketed maize was due to low prices offered by the Government, which remained below the import parity price. As a result, the large-scale farmers opted to grow higher value crops which were not subject to price controls or for which they could engage the

Government without being undermined by the small-scale farmers. Thus, the large-scale farmers turned to high value crops, such as wheat, soybeans, and horticultural products, as well flowers. Some of the high value crops, notably flowers, were in fact grown mainly for export rather than the domestic market.

The new agricultural regime established by the Government was expensive to maintain and was viable for only as long as the Government had massive income from the mining industry. Income from mining, however, declined, due to the collapse of the copper prices in the international markets, rising production costs and declining productivity. The decline in the productivity of the mines was inevitable after the nationalization of the mining companies, because the Government just got money out of the mines without reinvesting in the mining processes and technologies. Although the new agricultural regime based on subsidizing the entire product cycle became too costly to maintain, it only became an issue when the Government lost its credit worthiness and turned to the lenders of last resort, the international financial institutions.

The international financial institutions demanded broad macro-economic reforms in return for short term loans to bridge the Government's budget deficits. They also sought to help the Government restructure its spending by eliminating unnecessary costs not related to the Government's core functions. The first structural adjustment reforms sought to reduce the Government's budget deficit and promote efficiency and productivity in the productive sectors. As a result, "getting prices right" was a major thrust of these reforms. All prices were, therefore, freed from state controls, except the prices of maize, wheat and fertilizers, which remained under the control of the state.

The Government undertook further reforms between 1985 and 1990 at the insistence of the International Financial Institutions. These reforms were deeper and included abolition of state involvement in agricultural production and marketing, and reform of the financial sector. State agricultural marketing boards, such as the NAMBOARD were abolished in 1989. The agricultural marketing functions of NAMBOARD were, however, handed to the Provincial Cooperative Unions, while its loan portfolio of seasonal loans for small-scale farmers went to the Zambia Cooperative Federation Financial Services (ZCFFS). The Government, nevertheless, failed to eliminate subsidies on maize meal, because each time it attempted to liberalize the price of maize meal, riots erupted in the major cities and towns along the line of rail from Lusaka to the Copperbelt. In response, the Government restored the maize meal subsidies and controlled prices. The Government thus failed to implement the structural adjustment policy reforms in full (Howard and Mungoma, 1996). Failure to implement the economic reforms in full resulted in economic stagnation and decline. As a result, the economy continued to worsen, resulting in a permanent

economic crisis, which, however, gave birth to a political crisis, following the collapse of the Eastern European Communist regimes in 1989.

In the wake of the political and economic crises, trade union leaders, intellectuals and politicians that had fallen out of favor with the Kaunda regime begun to openly question, the wisdom of continued pursuit of "the discredited socialist policies and the one-party state". To stem the growing dissent, the Government called a National Convention on the economy in March 1990. This was a serious attempt to win broad support for the economic reforms, which were crucial to getting the country back on track. The convention, however, resulted in open demands for both economic and political reforms. A long reigning Government, which had become unpopular found itself with wars on the economic and political fronts. To diffuse the growing tension, the government offered a referendum to decide the future of the one-party state, but backtracked and instead agreed to re-introduce a multi-party political system and to call elections earlier than was scheduled. Presidential and general elections were thus held in October 1991.

The 1991 elections brought in a new Government led by the Movement for Multi-party Democracy (MMD), a loose coalition of trade unionists, businessmen and intellectuals, which had campaigned for political and economic liberalization. The new Government embarked on economic and political reforms in 1992. The political reforms sought to entrench democracy and establish a free market economy. They were therefore aimed at establishing institutions to support a democratic dispensation and a free market economy. A new constitution making process was therefore launched, while the economic reforms were focused on liberalization of the economy and limiting the role of the state legislation and enforcement of laws, and regulation of economic activities. State involvement in the production of goods and services, therefore, had to come to an end. As a result, the Government pledged to sell all state owned enterprises to private entities, both local and foreign. All prices had to be freed, while subsidies on maize meal had to be scaled down gradually and eventually eliminated completed.

By 1993, the Government had amended the Exchange Control Act and liberalized the financial markets and the exchange rate regime. Bureau de changes to ease transactions in foreign exchange were licensed, while a tight monetary and fiscal regime was also introduced. The latter included a cash budget to help stem the inflationary pressures, as inflation had increased to 197% by 1993 (GRZ, 1993). A privatization Act was also passed and the Zambia Privatization Agency (ZPA) established to ensure the swift sale of state-owned enterprises, which the Government had committed itself to. Although the Government was committed to liberalization of the economy, it found it difficult to completely withdraw from involvement in maize and agricultural in puts marketing. This was partly due to the 1991/92 drought, which required

massive imports of maize. The Government nevertheless promised to confine itself to setting a minimum price for maize, as transition measure to a fully liberalized maize market. It also continued to participate in the distribution of agricultural in puts, due to lack of capacity in the private sector to ensure timely delivery of agricultural in puts throughout the country.

The Government, however, had no capacity to sustain subsidies on agricultural in-puts, particularly in the context of a declining economy. Universal agricultural subsidies were therefore replaced with targeted subsidies, which targeted a few small-scale farmers, the so-called "vulnerable", but viable farmers". These were provided with what were initially described as "starter packs", consisting of hybrid seeds and fertilizers, designed to enable viable small-scale farmers get back on their feet. Although only a fraction of the nearly one million small-scale farmers in the country have had access to these subsidies, they seem to have become a permanent feature of every national budget. They have, however, been criticized for crowding out critical areas of investment, such as investment in irrigation, agricultural research and extension (Jayne, 2007).

The withdrawal of universal agricultural in put subsidies has resulted in major shifts in the production of maize. Most small-scale farmers in remote areas and indeed all the poor farmers without access to the starter packs have had to switch from maize production to other food products, especially cassava, millet and sorghum. The shift to these crops is on account of their comparatively high yields even when grown without using fertilizers. The share of maize produced by the small-scale farmers has consequently decreased, and the intermediate and large-scale farmers now account for the bulk of the marketed maize (Kalinda, 2002). The partial withdrawal of the Government from involvement in agricultural marketing has also resulted in the exclusion of most small-scale farmers from agricultural marketing, as the other food crops, which they are able to grow without the production enhancing technologies lack well-developed markets. This has resulted in most small-scale farmers seeking non-agricultural activities to help them raise cash for other important needs, including clothes, education and health expenses.

Most small-scale farmers have found the new agricultural environment rather difficult and even suffocating, because it has taken away what used to be their assured means of earning some substantial annual income, at the very time when reforms in other sectors, notably in health and education required them to contribute to the cost of provision of these services. Some analysts have thus argued that the post 1992 agricultural reforms, with their emphasis on rolling back the role of the state in agriculture have worsened rural poverty (Njobvu, 2002). Others, however, claim that the new political economy has diversified agricultural production in line with the comparative advantages of the different regions of

Zambia (World Bank, Withern, et al., 1999). Independent analysts, however, regard the new political economy of agriculture and rural development as counter productive, because it amounts to neglect of agricultural development. Measures to ensure the viability of the small-scale farms have thus been called for, including public investments in agricultural research and extension, as well as in irrigation infrastructure (IFAD, 2002). Some analysts, however, think that African small-scale agriculture in general, cannot survive in a global economy with increasing privatization of agricultural research (World Bank, 2008). Such analyses suggest that, there is no place for small-scale producers in a globalizing world. This seems to be the underlying philosophy of the agricultural and rural development policies promoted by the international financial institutions in poor countries like Zambia, which have had to restructure their economies under their auspices.

3.1 Responses to the New Political Economy of Agriculture and Rural Development

This section examines responses of rural households in the Mwami area of Chipata to the new political economy of agriculture and rural development. It draws on field observations and in-depth interviews with community and opinion leaders.

Interviews with community and opinion leaders revealed that most households in the Mwami area had found the new agricultural and rural development policy environment rather difficult. This was mainly because prices of agricultural in puts had risen beyond the means of most households in the Mwami area and indeed in rural Zambia at large. The situation was worsened by the low prices offered for maize by the emergent predominantly small-scale grain traders. Prices offered for maize by the private grain traders were often reported to have been below the production costs. Most households in the Mwami area had, therefore, reduced the amount of land devoted to maize production. For most households, however, the amount of land devoted to maize production was determined by the amount of fertilizer and hybrid seeds at their disposal. This was mainly because maize could not be grown with reasonable yields without fertilizers. Due to scarcity of fertilizers, the households that managed to access it no longer adhered to the recommended fertilizer application rates. This was an attempt to stretch the little fertilizer they accessed to cover as much land as possible. The very poor households, on the other hand, were forced to completely abandon maize production. Instead, they had turned to non-agricultural livelihoods, especially to activities, such as hunting and gathering edible wild fruits and tubers, production of charcoal for sale, and using the income thereof to buy food and other household requirements. Young men and women were also reported to have turned away from agricultural based livelihoods to trading activities. Young men, in particular, were reported to have turned to cross-border trading in a really big way.

Cross border trading involved taking commodities that were in short supply or cheaper one side of the border to the other for sale. Soft drinks such as coca cola and sobo, as well as fuel were generally sold at lower prices in Malawi than in Zambia. This price differential enabled some young men to buy soft drinks in M'chinji, Malawi for resale in Chipata in Zambia. Others bought fuel from Malawi and sold it on the road sides in Zambia, even though trading in fuel without appropriate licenses is illegal, since fuel is a highly flammable and hazardous substance. The young men in the Mwami area had a "big advantage" over other cross border traders in Chipata, because Mwami is closer to the Malawi border, as it lies between the border towns of Chipata and Mchinji. Young people from Mwami were, therefore, able to get into Mchinji and to return to Chipata earlier than their competitors. This gave them a slight edge over their competitors. They could also make more cross border trips than their competitors if they had a good capital outlay at their disposal.

The other response to the unfavorable agricultural environment reported by community and opinion leaders, as well as young people in focus group discussions was emigration of some young women and men, and especially the young women that had been widowed. They young people were emigrating from the Mwami area to informal settlements around Chipata and even beyond. However, only those with "reliable" relations in big towns, that could support them on arrival and throughout the period of looking for work ventured further than Chipata. The emigrants from the Mwami area generally sought employment in the domestic services or turned to small-scale trading, especially in the markets. The latter involved buying goods/commodities in bulk from farmers and bigger traders (wholesalers) at discounted prices, and re-selling the same goods in smaller quantities. Some of the young women that had emigrated to Chipata and other towns were also reported to have turned to not only small-scale trading, but sex work as well. They were, therefore, traders by the day and sex workers by night fall. Similarly, young men took up mostly casual daily employment, especially at brick works dotted around the fast growing town of Chipata. They also took up other menial jobs, including working as garden boys and security guards. Like their female counterparts, some young men also engaged in multiple income generating activities, including anti-social and criminal activities like petty thieving, and trading in prohibited substances, materials and goods, such as dagga, precious stones and game meat.

Most households in the Mwami area, however, continued working hard on the land. Such households were trying to make a living out of agricultural activities. These households supplemented their agricultural activities with a number of non-farm income generating activities, ranging from buying and selling maize and the small livestock, especially goats and poultry. Trading in agricultural produce and livestock was mostly engaged in by middle aged men, who could mobilize adequate capital and travel regularly into the

more remote parts of the Mwami area with some cash and essential goods to exchange for maize, goats and chickens. The maize and livestock was then taken to Chipata's urban markets for sale. Other households combined agricultural activities with occasional hunting and gathering wild tubers and fruits. The proceeds of hunting and gathering were in some cases sold to generate cash to help meet other needs, especially those relating to health and education of household members.

It was, however, observed that many households were finding it impossible to support the education of their children beyond the seven years of basic education, which the Government had declared free in 2002, upon realizing that, the "cost-sharing policy" had resulted in increased numbers of children in rural areas, in particular, dropping out of school. With increased unemployment even for the relatively "educated", many poor households did not find it difficult to withdraw their children from school, because education was no longer considered an investment that could pull either the children or the parents out of poverty. Education was, therefore, no longer as highly valued as before.

Although only a few parents and guardians were finding it difficult to keep their children in school for the first seven years of education, when it came to upper basic education (grades 8 and 9) nearly all the parents in the Mwami area had difficulties meeting the costs involved. Sending children to boarding schools involved providing not only tuition fees, but boarding fees and transport money to enable the children travel to and from school every three months. Most children from the Mwami area were, therefore, not going beyond the seven years of basic education, because their guardians/parents could not afford the costs involved. Orphans and children from very poor households were the most adversely affected by the high costs of upper basic and high school education. The situation was, particularly, worse for the orphans, because they were in most cases supported by their elderly grandmothers, well past working age, and without any means of meeting the costs of the school requirements. It was, however, not just the orphaned children that were failing to meet the costs of upper basic and high school education. Many children with parents that were still physically strong and capable of working were also dropping out of upper basic and high school, because their parents were not able to meet the costs of upper basic and high school education. Upper basic and high school education were thus getting out of the reach of most young people in the Mwami area. It was therefore not unusual to find young men and women that had dropped out of upper basic and high school on account of lack of money to meet the costs of transport, uniforms, boarding and tuition fees.

The high cost of attending upper basic and high schools had led to increased demands for more upper basic and high schools within the Mwami area. However, while upgrading more middle basic schools to

upper basic and high schools sounded like a good idea, the downside was most basic schools that were already in the area and indeed Feni High School, the only high school in the area found it difficult to retain trained teachers for the upper basic and high school levels. Failure to retain the upper basic and high school teachers in the Mwami area was due to lack of many social and economic amenities in the area, which resulted in rather low living standards. The generally low living standards were worsened by the lack of reliable public transport services in the area. As a result, the Mwami area could not effectively competent for upper basic and high school teachers who were also in short supply in the country as a whole. The shortage of trained teachers in Zambia was largely due to the need for the Government to keep its expenditure within the parameters agreed with the international financial institutions. This prevented the Government from recruiting more teachers even though new teachers were graduating from its colleges every year. While the Government could not recruit more teachers on account of lack of money, some money was being returned to the treasury every year by Departments that were not able to utilize their allocations. Thus, the Government found itself in an embarrassing situation where by new teachers were graduating every year from its colleges, but it was unable to employ them despite many schools in rural having to do without trained teachers.

The shortage of trained teachers and the reluctance of most trained teachers to serve in remote rural areas also resulted in most schools in the Mwami area being run by only a few trained teachers supported by untrained teachers hired at the expense of the local communities. This resulted in all the parents and guardians of children attending the schools in the area being levied some monthly cash contributions for maintenance of the locally hired “untrained teachers”. Most of the untrained teachers were, however, not even competent, though they were reported to have completed their high school education. Children whose parents were unable to meet the monthly contributions for the maintenance of the locally hired untrained teachers were usually stopped from attending classes. Thus, an initiative aimed at improving the quality of education resulted in increasing the numbers of children forced to drop out of school before completing even the their first seven years of education, which is supposed to be free, or at full Government expense.

Infrastructure challenges were the other hurdle to upgrading middle basic schools to upper basic schools. It was, in particular, observed that most upgraded upper basic schools in the Mwami area, and indeed elsewhere in rural Zambia lacked the essential infrastructure required of fully fledged upper basic schools. Most upper basic schools, for example, lacked science laboratories, because they were built as either lower or middle basic schools, which did not require the expensive science laboratories and equipment. Upon being upgraded to upper basic schools, however, the lacking infrastructure is often not provided. As

a result, the upgraded upper basic schools teach the sciences without carrying out any experiments as provided for in the curriculum.

The quality of education in the Mwami area and rural Zambia at large was generally considered poor, on account of shortages of trained teachers, teaching facilities and materials. Upper basic schools in the Mwami area, therefore, left a lot to be desired. This was evident from their low progression rates to high schools and high drop out rates of children from the Mwami area when they attended the nearby Feni High School and other high schools beyond. Many children from the rural upper basic schools found it difficult to cope with high school education, because they were inadequately prepared during their upper basic education. This was due to poor living conditions obtained in rural areas which made trained teachers avoid serving in rural areas. Similarly, a lack of adequate income generating opportunities made it difficult for parents and guardians to provide the necessary school requirements for their children. The poor quality of upper basic education available in the Mwami area and rural Zambia at large prevented upward social mobility, especially for orphans and children from very poor households. The harsh rural economic environment was largely due to the liberal macro-economic policies promoted by the international financial institutions that had resulted in cut backs on essential public services in the vain hope that the private sector would fill up the gaps.

The overall social economic situation in rural areas was made worse by the high prevalence of HIV/AIDS and the recurrence of droughts, which both worsened poverty by increasing the already high dependency ratios and poverty levels through exhaustion of assets and stores. These factors thus made it impossible for the extended family to provide adequate social safety nets. The rest of the paper, therefore, examines the HIV/AIDS situation, the recurrence of droughts and how people in the Mwami area responded to these shocks.

4.0 HIV/AIDS and Responses of Households and Communities in the Mwami Area

In this section we review the national HIV/AIDS situation and policy responses, before examining the HIV/AIDS situation in the Mwami area and responses of young people, households, and communities.

4.1 HIV/AIDS Prevalence and Policy Responses in Zambia

The 2007 global AIDS update by the United Nations Joint Program on HIV/AIDS (UNAIDS) revised downwards the number of persons globally living with HIV/AIDS from an estimated 39.5 million in 2006 to 33.2 million in 2007. The revision downwards is due to improvements in methods of estimation of the HIV epidemics, and availability of more representative data obtained through population based surveys.

Increases in sentinel surveillance sites, especially in countries that were previously not adequately covered also helped improve the outcomes of the mathematical models used to estimate the prevalence rates of HIV/AIDS.

The downward revision of the estimated number of people living with HIV/AIDS has not changed the trends in the pandemic itself. The general HIV/AIDS trends, therefore, remain the same, and HIV/AIDS is still the foremost public health challenge. Sub-Saharan Africa is also still the most seriously affected region accounting for nearly 68% and 90% of adults and children globally infected by HIV/AIDS, while southern Africa and eight countries within it, including Zambia are the most affected counties in the world. The other seriously affected countries within Southern Africa are: Botswana; Lesotho; Malawi; Namibia; Swaziland; South Africa and Zimbabwe. These countries accounted for 32% of the global cases of HIV/AIDS in 2007. The national HIV/AIDS prevalence rates in the most seriously affected countries are more than 15% of their adult populations aged 15-49 years. This is in sharp contrast with the other African countries, where the national HIV prevalence is typically below 5% of the adult population. As a result, the national HIV prevalence rates found in Southern Africa are twice to treble the Africa wide HIV prevalence, which was estimated at 7.7% in 2006, but has since been revised to 5% of the adult population aged 15-49 years (UNAIDS, 2008).

Zambia's high HIV/AIDS prevalence rate has shown some modest improvement in recent years, with the prevalence rate in the adult population aged 15 to 49 declining from 15.6% in 2006 to 14.3% in 2007. Women, however, still account for more HIV/AIDS cases than men with prevalence rates of 18 and 13% respectively. The HIV infections in women also peak earlier than in men. This has been attributed to inter-generational sexual contact between young women and older men. Recent population based and sentinel surveillance surveys, however, suggest a decrease in HIV prevalence among young women in the 15 to 19 age group. The 2007 Zambia Demographic Health Survey, for example, suggest that HIV prevalence in young women aged 15 to 19 had decreased from 7.7% in 2001/02 to 5% in 2007 (CSO, 2008). These findings have been collaborated by other independent studies, such as Sandoy et. al., (2006) and Stringer et. al (2008). The former found a decline in HIV prevalence among pregnant women aged 15-24 years in both rural and urban areas in the period 1994-2002. Similarly, the latter reported a decline in HIV prevalence among antenatal attendees in Lusaka aged less than 17 years in the period 2002 to 2006 (Sandoy, et. al., 2006 and Stringer, et. al., 2008).

The HIV/AIDS prevalence rates in urban areas of Zambia are twice those in rural areas. This observation has consistently been upheld in both the population based and sentinel surveillance surveys. For example,

whereas the 2002 ZDHS put the urban and rural HIV prevalence rates at 25 and 11% respectively, the 2007 ZDHS estimated the same rates at 20 and 10 % respectively (CSO, 2003 and 2008). Average regional prevalence rates can, however, mask and/or exaggerate the difference. In this regard, it should be noted that, while the average rural HIV prevalence rate is lower, prevalence rates in some rural areas are closer to the urban average prevalence rates. The Eastern Province, Western and Southern Provinces are cases in point. Their average prevalence rates of 13% and 15% respectively are closer to the average urban prevalence rate of 15%. Yet, some urban centres, such as Lusaka have had average prevalence rates that are far above the average urban prevalence rate at 21 and 30% respectively (CSO, 2003 and 2007).

Rural areas, however, tend to share in shouldering the urban HIV/AIDS burden, as there is a tendency for infected people in urban areas to return to their "rural homes" in the last few months of their lives. This shifts the burden of provision of care and support to people in rural areas. It is also more common to move orphans from urban to rural areas, after the deaths of their parents to join their grand parents, who by far tend to take up responsibility for most orphans in Zambia (CSO, 2008; Drinkwater, et. al., 2006).

The movement of people living with AIDS and orphans to rural areas worsens the rural HIV/AIDS burden. The situation is worsened by the high levels of deprivation in rural areas. Income poverty, for example, is worse in rural than in urban areas with poverty prevalence rates of 83 and 53% respectively in 2007 (CSO, 2007). The HIV/AIDS pandemic in Zambia does not, therefore, just decimate the most productive segment of the population, but also creates social crises in terms of provision of care and support to orphans and the elderly that lose their breadwinners. The population of orphans was, for example, estimated at 1.2 million in 2002, of which an estimated 900 000 were orphans due to AIDS (UNDP, 2007). The HIV/AIDS pandemic thus worsens the already high dependency ratios. It is, therefore, not just a problem for the health sector, but a development challenge, as it undermines economic performance and adversely affects all aspects of life including, raising and educating the orphaned children.

The number of people already infected with HIV/AIDS in Zambia has been put at nearly one million or 17% of the population. With such a large number of people already infected, the challenges posed by the HIV/AIDS pandemic would remain a drag on social and economic development for some time to come. In the absence of a cure, behavior change remains the most potent tool for prevention and mitigation of HIV/AIDS. Increased availability of antiretroviral treatment, while helpful with regard to stabilizing mortality due to HIV/AIDS, poses new challenges, such as the new drug resistant variants of the HIV and the risk of infected people on treatment passing on the infection to many other people. The authorities in Zambia have also found it difficult to scale up antiretroviral treatment, due a number of bottlenecks,

including very low uptakes of voluntary counseling and testing. As a result, many people who are infected are not aware of their status and therefore not seeking appropriate care and treatment, as well as avoiding risky sexual behaviors. The limited availability of essential equipment for the provision of antiretroviral treatment safely, such as the shortage of CD4 Count Machines, means that many people are not placed on treatment in good time. As the World Health Organization quoted by UNAIDS (2008), put it, therefore, Zambia is one of those countries with deficits in the provision of anti-retroviral treatment.

Recognition of the adverse effects of HIV/AIDS on the economy and all aspects of life made the Government realize the importance of its prevention and mitigation. To maximize support to Zambia's prevention and mitigation effort, the Government declared HIV/AIDS a national disaster in 2002. This enabled both the local and international agencies to pool their resources and support the HIV/AIDS prevention and mitigation effort in Zambia.

4.2 Knowledge and Attitudes to HIV/AIDS among Young People

The population based and sentinel surveillance data relating to HIV/AIDS are difficult to relate to specific areas, such as the Mwami area, because they are designed to provide information on the HIV/AIDS situation and trends at the national level. For that reason, they may not provide an accurate picture for a much smaller area. In the same vein the findings of the national sample surveys on awareness of HIV/AIDS and sexual behavior of young people may not accurately reflect the local reality in a small area. To be effective therefore, any local interventions have to be based on information that reflects the situation as it is in the selected area. Awareness of the discrepancies that could exist between the national level situation and specific areas made it necessary to investigate the awareness and attitudes to HIV/AIDS and sexual behavior of young people, as well as the responses of households and communities to prevention and mitigation of HIV/AIDS in the Mwami area of Chipata.

Knowledge of the nature of HIV/AIDS, attitudes to HIV/AIDS and how people relate to people living with HIV/AIDS are critical to sustainable prevention and mitigation of HIV/AIDS. This is because HIV/AIDS cannot successfully be prevented and mitigated in communities in which people living with HIV/AIDS are discriminated against and stigmatized. In such communities, the HIV/AIDS pandemic is bound to be driven underground, which could make its prevention and mitigation impossible. To be relevant, therefore, the LCCB program needed information on awareness of and attitudes to HIV/AIDS, as well as the sexual behavior of young people and community responses to the challenges of HIV/AIDS in the Mwami area of Chipata.

To establish whether young people in the Mwami area had adequate knowledge of the nature of HIV/AIDS, we interviewed 130 randomly selected young people aged 12-24 years. Of the 130, 54% and 46% were females and males respectively. More females than males were interviewed, because the females unlike their male counterparts were more likely to be found at home, because they took responsibility for household chores, whereas their male counterparts tended to help out or participate in livelihoods activities undertaken away from home.

Young people's knowledge of and attitudes to HIV/AIDS, as well as sexual behavior were established through an interview survey, which sought to find out whether young people in the Mwami area knew the essential facts about the nature of HIV/AIDS. In particular, we sought to establish whether young people knew how HIV/AIDS might be prevented and transmitted, and whether they knew the fact that HIV could not be transmitted by casual contact, but intimate sexual contact and exchange of body fluids. It was also important for young people to know that a person carrying the virus that causes AIDS could not be identified by mere physical appearance. The knowledge of essential facts about HIV/AIDS was crucial to both prevention of HIV/AIDS and negative discriminatory tendencies towards people living with HIV/AIDS.

The household survey of young people revealed that 82% of young people knew that there was no cure for HIV/AIDS and 60% knew that HIV/AIDS could not be transmitted by casual contact. However, 55% of young people in the Mwami area lacked adequate knowledge of the nature of HIV/AIDS. This was evident from their responses relating to whether they could share utensils, living space and a number of things with persons living with HIV/AIDS. Inadequate knowledge of HIV/AIDS made most young people fearful, and likely to have negative attitudes towards people living with HIV/AIDS.

4.3 Sexual Behavior of Young People in the Mwami Area

To establish the sexual behavior of young people in the Mwami area, we asked them a number questions about their sexual behavior. The questions ranged from whether they had ever had sex, the age at which they had their first sexual intercourse, and whether they used condoms every time they had sex, as well as the number of sexual partners they had had.

Responses of young people to questions aimed at establishing their sexual behavior revealed that 56% of young people aged 12 to 24 that were interviewed had never had sex before, while 46% had had sex. The young people that had had sex before had their first sexual intercourse at ages ranging between 5 and 19 years. It was worrying that a few young people (12%) had had sex before the age of 12, as sex before the

sexual organs were fully developed, particularly in females was risky, as they were likely to be bruised and exposed to the virus that causes AIDS. The majority (85%) of young people across the gender divide had had their first sexual intercourse between the ages of 12 and 19. This is evident from the median and average ages by which young people had their first sexual intercourse of 14 and 13.8years respectively.

To obtain more information about the sexual behavior of young people in the Mwami area, we asked the young people who reported having had sex before about the number of sexual partners they had had. We also asked them whether they used condoms every time they had sex. The majority of young people (98%) reported having had only one sexual partner. The few (3) that reported more than one sexual partner were all males, who all reported having had two sexual partners. With regard to use of condoms, only 37% of young people reported using condoms every time they had sex. The low proportion of the sexually active young people that reported using condoms every time they had sex was largely due to attitudes than availability of condoms. This was likely, because 98% of young people reported condoms being readily available in their areas. The reported easy availability of condoms was, however, surprising, because it was difficult to see the retail outlets in the Mwami area that could have made condoms readily available given that the retail outlets in the Mwami area were confined to Mwami Hospital, Feni and along the Chipata-Mchinji Road. As a result, most of the interior of the Mwami area lacked retail outlets. The perceived easy availability of condoms was, therefore, clearly exaggerated, especially that the majority of young people reported not using condoms. They could not, therefore, have bothered to establish the effective availability of condoms.

The low demand for condoms among sexually active young people in the Mwami area, suggests some resistance to use of condoms. It could also imply that the message of using condoms to prevent HIV/AIDS and other sexually transmitted diseases, as well as teenage and unwanted pregnancies had not sunk into the minds of most of the sexually active young people in the Mwami area. To obtain some idea about how young people in the study area perceived condoms, we asked the respondents to state the extent to which they trusted condoms. About 77% of the sexually active young people reported trusting condoms 100 to 90%, while 15% trusted condoms only by 50% and a paltry 8% did not trust the condoms at all. These findings suggest that the low use of condoms was not due to lack of trust in the efficacy of the condoms, but other factors that were not clearly established.

We also sought information on the prevalence of teenage pregnancies and early marriages in the Mwami area to obtain further insights into the sexual behavior of young people in the study area. Information on teenage pregnancies and early marriages in the Mwami area was obtained through focus group discussions and in-depth interviews. The focus group discussions were held with young people in groups of 5 to 10

young people of the same sex. These focus group discussions were organized along sex lines to ensure full participation of all the participants. This was essential, because combined focus groups of young women and men could have been dominated by the latter, while most young women would have been more reserved in the combined groups. Similarly, some young men may not have discussed freely in the combined focus groups of young women and men, while others would have been prone to exaggeration of their sexual encounters and experience.

Focus group discussions with both the young people and community leaders revealed that, teenage pregnancies and early marriages were common in the Mwami area. The young people attributed both teenage pregnancies and early marriages to customs that encouraged young women to marry as soon as they reached puberty. Such customs glorified motherhood and made many young women yearn to become mothers. General social pressure embedded in the local customs, norms and beliefs rather than peer pressure were identified as the driving forces behind both teenage pregnancies and early marriages. The young people also identified high levels of deprivation as yet another factor that made sexual relationships with much older men more appealing. This is because unlike their male peers, older men could meet some of the pressing material needs of the young women that some parents or guardians could not provide.

Most teenage pregnancies and early marriages were reported to have been common among young women aged between 13 and 19 years. Their much older male partners were reported to have been between the ages of 25 and 40. Young men were not preferred by their female peers, because they were not likely to have the resources and means to provide some of the pressing needs felt by the latter. The phenomenon of young women being attracted by much older men on account of the latter being in a position to meet some of their pressing material needs supports the view that, deprivation and poverty makes young women and women in general more vulnerable to HIV/AIDS.

The findings of the focus groups with young people were collaborated by in-depth interviews and focus group discussions with community leaders. Unlike the young people who attributed teenage pregnancies and early marriages to social pressure that glorified motherhood, and made young women yearn to become mothers, the community leaders attributed teenage pregnancies to “irresponsibility and stubbornness” among young people generally. The early marriages, on the other hand, were attributed to high levels of poverty and the desire by some parents to acquire cattle or money by marrying off their daughters to relatively well off individuals with either a lot of money or cattle. This finding was supported by the young people’s assertion that most teenage pregnancies and early marriages were between younger women and much older men. The much older men were, however, more likely to have been exposed to

HIV/AIDS than their much younger female partners. Inter-generational sexual relationships were, therefore, a potential driver of HIV/AIDS. Little attention was, however, paid to the risks involved in intergenerational sexual relationships. This was mainly because the risk of HIV/AIDS within the immediate neighborhood was assumed to have been low.

In-depth interviews with teachers at three schools within the Mwami area confirmed the high prevalence of teenage pregnancies and early marriages in the area. The early marriages, however, appeared relatively higher than the teenage pregnancies. This was in part attributed to the fact that most teenage pregnancies ended up in early marriages, and it was not always possible to establish what had come first between the pregnancy and the marriage. This was the case, because there was a tendency to arrange marriage ceremonies in cases where the young women became pregnant outside wedlock. This was, however, only possible where the men responsible were willing to marry their pregnant partners. Such arrangements were often made to avoid embarrassment and shame to the family of the pregnant young woman. School enrolment statistics also showed that female students begun dropping out as soon as they turned about 13 years old, which was around the time when they were in grades 5, 6 and 7, depending on how early they had started schooling. As a result, even though, there were equal numbers of boys and girls in the early grades, the numbers of female pupils begun to decline from the fifth grade. By the time, the pupils were in their seventh grade nearly half of the female pupils had dropped out on account of having been married.

4.4 Community Responses to HIV/AIDS

To establish community responses to HIV/AIDS in the Mwami area, we interviewed community and opinion leaders. The former were composed of mostly village headmen and councilors of the traditional Ngoni Chiefs within the area. These were exclusively councilors and elders of Chiefs Saili and Mpezeni, because the study area fell within the two chiefdoms. The opinion leaders were mostly teachers and rural health workers, as well as respected retired civil servants living within the area.

Interviews with community and opinion leaders revealed that the communities in the Mwami area had not initiated any programs or activities to help prevent and/mitigate the adverse effects of HIV/AIDS. It was in fact established that initiatives aimed at prevention and mitigation of HIV/AIDS initiated by external agencies collapsed as soon the promoting external agency had withdrawn from the area. The Home Based Care Program was cited as an example of an initiative promoted by an external agency, the Ministry Health, which collapsed as soon its field promoters, the employees of the Ministry stopped visiting the area. Volunteers had, however, been trained and the program had established community gardens to help sustain the program's activities by providing funds for such essential materials as bathing soap and

detergents through the sale of vegetables grown by the volunteers in the different areas where the programs had been established.

The community leaders attributed failure to organize community initiatives to help prevent and mitigate HIV/AIDS to high levels of poverty and deprivation. It was therefore felt that, deprivation prevented people in the area from being active in charitable activities, because most adults spent most of their time on income generating activities away from their villages. As a result, there was hardly any one in these communities with the time to nurture community initiatives. For most people and households alike any time spent on community initiatives or projects was at the expense of income generating activities and could result in lack of food in households within days. The high levels of deprivation were attributed to lack of food stocks and stores to provide for the days when the breadwinners may not work. Lives of most individuals and households in the Mwami area were, therefore, characterized by hand to mouth existence. This extreme form of deprivation was attributed to two main factors: the high cost of fertilizers coupled with low prices for agricultural produce; and recurrent droughts.

The high cost of fertilizers had resulted in many households not growing as much maize as before. Low maize prices offered by grain traders also made it impossible to recover the cost of in puts, let alone build up any savings. The droughts which were reported to have become more frequent and severe since the turn of the century made an already precarious situation worse. The recurrent droughts were in fact regarded as the final nail in the coffin of the agricultural based livelihoods in the Mwami area, because they caused heavy losses of resources invested in the crops, which failed, and forced the households to use their savings and stored valuables, including cattle, the main store and symbol of wealth among the Ngoni. The 2000/2001 and 2001/2002 recurrent droughts were, however, singled out as the worst, because they caused the most lasting damage to the livelihoods of rural households in the Mwami area. It was, for example, observed that most households in the area had lost entire herds of cattle during the droughts that followed each other, that is the 2000/2001 and 2001/2002 agricultural seasons. Even the widely acknowledged regional drought of 1991/92, which was widely regarded as the worst droughts in living memory in Southern Africa, was reported not to have been as devastating as the recurrent droughts of the early 2000s.

The recurrent droughts of the 2000s were more devastating, because they did not give the households in the Mwami area time to recover. Most households were, therefore, compelled to make distress sales of livestock, including cattle that had survived the drought in the immediate past agricultural season. Distress sales had to be made to avoid losing the animals to diseases, which became rampant during recurrent

droughts. The animal diseases were worsened by lack of public health facilities for prevention of animal diseases, as most of the public facilities, including “deeps” had been closed, or sold in a misguided attempt to privatize veterinary services by the Government. Some households had also sold their livestock to find money to help them through the recurrent drought. Most households failed to recover from the devastation of the recurrent droughts, because they had depleted their savings and stored valuables, including their highly prized cattle. Rebuilding assets for most households was made difficult by an hostile rural economic environment, which neither offered any significant means of rebuilding assets quickly nor safety nets. It was also difficult to rebuild assets in the Mwami area, because grain production, which previously provided at least one or two large annual cash income was no longer an option with most households not being able afford the agricultural in puts. Employment was equally not an option, because there were hardly any jobs in the area, due to the generalized deprivation of households.

The assertion that most households in the Mwami area had been impoverished by the harsh rural economic conditions and recurrent droughts was evident from the dominance of run down empty grain stores throughout the area. Most households had in fact stopped storing their meager food stocks in the grain stores where everyone could see how much grain they still had. These observations were made in August 2007 a mere two to three months after the harvest. Most households had also run out of their maize stocks, because they were not growing as much maize as in the pre-reform years. Thus, the high cost of hybrid seeds and fertilizers was the major production constraint. Most households could not, therefore, afford adequate amounts of hybrid seeds and fertilizers. As a result, they planted only as much maize as the seed and fertilizers they could afford or mobilize. In most cases, however, the maize grown was not enough to last until the next harvest. Most households in the Mwami area, therefore, had to engage in non-farm activities to raise money to put food on the table once their own produced maize stocks had run out.

In-depth interviews with opinion leaders also suggested that, it was difficult to implement any community initiatives aimed at prevention or mitigation of HIV/AIDS in the Mwami area, because of a limited number of people with essential organizational skills, such as literacy and experience of working in formal institutions. This shortage of skilled people meant that, all the projects that went into the area ended up in the hands of the same people. The few people with organizational skills needed to manage community initiatives saw community initiatives, or projects as potential income generating activities for themselves, in the form of employment, or other benefits that come with being involved in community based initiatives. Projects that did not provide any benefits to the skilled persons were thus likely to experience obstacles of one form or the other.

The field survey also revealed that though the Mwami area had previously been one of the most prosperous rural areas, in the post reform (1992) period it was also wallowing in poverty. Evidence of the Mwami area's past prosperity was evident nearly every where in the form of once well maintained roads connecting all parts of the area having been reduced to mere foot paths, due to years of neglect and lack of maintenance. The once prosperous homesteads could also still be identified from long broken down motor vehicles still parked by their sides, and well built brick houses with iron roofs that were clearly in need of some attention. The turning point identified by community and opinion leaders was the loss of access to affordable agricultural in puts and consequent failure to participate in agricultural markets effectively, due to lack of adequate food surpluses to sell. The final nail in the impoverishment of the households of the Mwami area was the recurrent droughts, which denied the households an opportunity to rebuild their food stocks and stores.

5.0 Recurrent Droughts in the Mwami area

The original study on which this paper is based did not set out to investigate the role of droughts in the livelihoods of rural households in the Mwami area of Chipata. In-depth interviews and focus group discussions with community and opinion leaders in the Mwami area, however, revealed that droughts had contributed enormously to the impoverishment of households in the area. This was mainly through loss of investments in the crops that failed, and exhaustion of savings and stored valuables, including livestock. Most of the large livestock, especially cattle was lost during droughts through diseases and distress sales. Loss of livestock to diseases during droughts was common because of the high prevalence of animal diseases. The situation was worsened by the absence of public facilities and services to help prevent, or minimize the prevalence of animal diseases during the droughts. Fear of losing cattle to diseases during droughts also made many small-scale farmers sell their livestock. The main idea behind such sales was to cut ones' losses. A limited market for livestock within the Eastern Province, however, meant that prices of livestock substantially went down, as more animals were offered for sale. Worse still, due to east coast fever being endemic to the Eastern Province, the small-scale farmers could not obtain higher prices by selling their cattle outside the province, as it is illegal to move livestock and even carcasses from the Eastern Province to other provinces. The restriction on movements of livestock from the Eastern Province to other parts of the country is aimed at preventing the spread of east coast fever to other parts of the country.

Recurrent droughts and the harsh economic policies emerged as the two main factors responsible for the widespread impoverishment of households in the Mwami area. The recurrent droughts were considered

worse than the occasional droughts, because they forced people to exhaust their assets, especially savings and stored valuables, including livestock. Large livestock, especially cattle, was extremely vulnerable to diseases during droughts. This vulnerability made small-scale farmers resort to distress sales of livestock during droughts. Recurrent droughts were considered the most devastating, because they did not leave any room for recovery from the previous drought. This was due to the prolonged period of not replenishing stores, which made the victims of the recurrent droughts dig deeper into their assets and stored valuables, which further undermined their prospects for recovery. As a result, most household had to rebuild their lives with hardly any resources in the post recurrent drought period. The recurrent droughts of 2000/2001 and 2001/2002, though mostly localized in terms of their coverage, were singled out as the most devastating in the Mwami area, because they denied the households time to rebuild their assets. Most people did not moreover expect the droughts in two subsequent rainy seasons, as droughts have traditionally occurred only once in a decade.

According to the community and opinion leaders, the only people that were left with cattle after the recurrent droughts of the early 2000s were “the very rich households” with supportive grown up children and/or well to do relatives in cities and towns. The grown up children and/relatives in cities and towns helped the “better off households” through the droughts by sending remittances that enabled the “better off households” to survive the droughts without any significant dents into their assets, including livestock. That was possible, because the remittances provided food and medicines to protect the cattle during the droughts.

Community and opinion leader also suggested that the concurrence of recurrent droughts and harsh economic policies was more devastating than HIV/AIDS in the impoverishment of households in the Mwami area, because they affected all the households at the same time. HIV/AIDS was in fact considered less devastating at the community level in the short-term, because it did not disrupt livelihoods of all the households at the same time, like the harsh economic policies and droughts. The HIV/AIDS was less devastating in the short-term, because its adverse effects set into the affected households gradually. Thus, while the HIV/AIDS pandemic was equally devastating in the long term, in the short-term, it was the harsh economic policies and recurrent droughts that were immediately felt and proved extremely devastating. It was therefore unfortunate that the harsh agricultural and rural development policies implemented in the 1990s coincided with increased occurrence of droughts and floods.

Closer examination of climatic data confirms the increased frequency and severity of droughts in Zambia since the 1990s. The data, in fact shows that 7 of the last 15 years since 1991 have been droughty years.

The droughts occurred in the 1991/92; 1992/93; 1994/95; 1997/98; 2000/01; 2001/02 and 2004/05 agricultural seasons (GRZ; 2007; IUCN, 2007). Apart from droughts, floods had also increased in frequency and intensity. Serious floods have in particular been reported in different parts of the country in the last three agricultural seasons: 2005/06; 2006/07 and in the 2007/08 agricultural season (Jain, 2008).

5.1 Responses to Droughts in the Mwami Area

In-depth interviews and focus group discussions with community and opinion leaders in the Mwami area, suggested that households and communities found it difficult to respond to droughts, in part, because droughts have previously not been experienced regularly. Droughts have often occurred only about once in a decade in tandem with the El nino effect. Infrequent occurrence of droughts made it easy for households and communities to cope with the odd drought in any decade. The infrequent occurrence of droughts also prevented the emergence of any elaborate responses to droughts, though the traditional practice of mixed cropping would appear to have been a long-term mechanism for coping with the occasional drought. The community and opinion leaders did not, however, report any measures taken at the community level in response to recurrent droughts. A number of measures designed to cope with the recurrent droughts were, however, reported at the household level. They included: early preparation of fields and planting on the onset of the very first rains; replanting in case the early rains were erratic and resulted in the loss of crops planted with the first rains. Inter-cropping of local maize varieties with beans and other crops to minimize losses in the event of the rains ending before the maturity of any of the intercropped crops, was the other widely reported measure.

It was, however, observed that the seed production companies operating in the area had increased the provision of some early maturing maize seeds. These were unfortunately only taken advantage of by the very few “rich households” in the area that, could afford hybrid maize seeds and fertilizers. The very poor households, on the other hand, had turned to cassava, which was, however, generally despised as the poor man’s crop and food, because of its poor nutrition value in comparison to maize, and lack of an effective ready market for it. Distress sales of livestock were also mentioned with the observation that most households in the Mwami area had lost their cattle in the previous droughts, due to distress sales. In addition, it was observed that, even the small livestock, including poultry were sold in greater numbers during droughts. This was because households had to find alternative means of obtaining money to buy food and other requirements. Some people and especially younger people were also reported to have abandoned agricultural production all together and migrated to the nearby informal townships in the nearby town of Chipata to seek better lives.

The majority of households in the Mwami area were, however, reported to have diversified their sources of food and income, to include, hunting and gathering, as well as production of charcoal for sale in the nearby town of Chipata. Young people, on the other hand, were reported to have turned mostly to market gardening and cross border trading between the nearby M'chinji and Chipata border towns in Malawi and Zambia respectively. Women were also reported to have increasingly turned to small-scale trading activities, involving buying goods in bulk and reselling them in smaller quantities. Vegetables and other foodstuffs were the noted goods bought and sold by women. Some men were also reported to have started trading in the smaller livestock. This generally involved buying essential goods and taking them around villages in the Mwami area and exchanging the goods with livestock, especially poultry and occasionally goats, which were then resold in Chipata.

6.0 Discussion of Responses to Economic Shocks, Recurrent Droughts, and HIV/AIDS

This section discusses the responses of rural households and communities in the Mwami area to adverse economic conditions, HIV/AIDS and recurrent droughts in the context of the socio-ecological framework discussed in section 2.0. The socio-ecological framework posits that resilience and sustainability of livelihoods directly dependent on environmental resources in the context of limited technology is dependent on the socio-economic and environmental realms remaining in equilibrium. Changes in either the socio-economic or the environmental realms in the absence of technological innovations to help boost productivity undermines the stability and sustainability of livelihoods and could trigger the collapse of the entire socio-economical system. The rest of this section thus discusses the sustainability of the livelihoods of the people in the Mwami area in the context of the current political economy, high prevalence of HIV/AIDS and frequent recurrence of droughts.

The macro-economic reforms undertaken in Zambia in the early 1990s, the emergence of HIV/AIDS and increased occurrence of droughts after the turn of the century have all helped undermine the relatively vibrant agricultural economy based on rain fed production of hybrid maize, which was well established in the Mwami area and Chipata at large by the end of the 1980s. This economy was based on state provision of subsidized agricultural in-puts and participation in maize marketing, which virtually ensured a market for all the maize offered for sale by the small-scale farmers. In response, the small-scale farmers increased maize production through increased amount of land brought under maize cultivation (Howard and Mungoma, 1996). The liberalization of agricultural marketing and withdrawal of universal agricultural subsidies in the early 1990s, however, became major shocks for most small-scale farmers in the Mwami area. Although most small-scale farmers have continued to grow maize, it is largely because it is their staple food. However, they are not able to grow large quantities of maize without the hybrid seeds and

fertilizers. This is because maize yields are very poor when hybrid seeds and fertilizers are not applied in sufficient quantities. The situation has been worsened by the fact that the increase in costs of hybrid seeds and fertilizers has not been matched by prices offered for maize by the small-scale grain traders and even the government through the Food Reserve Agency (FRA), the market of last resort, which buys maize to ensure the country has adequate maize stocks and is thus "food secure".

Poor access to agricultural in puts coupled with poor prices offered for maize forced most small-scale farmers in the Mwami area to reduce the amount of land devoted to maize production. Most of the maize grown was in fact for own consumption rather than sale. The limited access to fertilizers also made most small-scale farmers not to follow the recommended fertilizer applications rates. Instead, they spread it as much as possible in a bid to enhance production. The very poor have, however, completely abandoned maize production and turned to either cassava or other non-agricultural means of earning livelihoods. As a result, instead of agricultural activities being the main source of livelihoods, especially for those that can not afford fertilizers, it has become just one of the activities the residents of Mwami engage in to make ends meet. The other livelihood activities that have since become prominent in the Mwami area were: hunting and gathering, charcoal burning and selling and trading in forest resources, including selling firewood and game meat, and other forest products. General buying and selling has also taken a central stage in the lives of young people and women especially as some have turned to general small-scale trading and cross-border trading.

The prominent livelihood activities that the residents of the Mwami area had turned to, due to lack of access to agricultural in-puts were mostly dependent on exploitation of the natural environment. Most of these activities, therefore, have serious implications for sustainable use of the natural forest products and sustainable environmental management at large, because they pose serious environmental problems, like deforestation and the risk of depleting wildlife resources. The latter has been so serious that the Zambia Wildlife Authority (ZAWA) has been reporting increased cases of unauthorized hunting of wildlife both inside and outside the national parks. There has also been an increase in the number of people caught selling game meat obtained through illegal hunting and poaching. However, given that the population of the Mwami area like that of the rest of Zambia was predominantly young, it was more likely to increase to levels where most of the livelihoods based on extracting resources from the natural environment at low levels of technology would not be sustainable. This grave situation is moreover bound to be worsened by the adverse effects of HIV/AIDS, and especially the loss of skills and knowledge of sustainable extraction of resources from the natural environment through deaths of people in the prime of their lives with knowledge and skills for sustainable extraction of the natural forest products and resources.

The increased occurrence of droughts and floods is also bound to adversely effect the regeneration of forests and forest products, including charcoal, firewood and wildlife. As a result, the livelihoods based on direct extraction of resources from the environment at low levels of technology are not likely to be sustainable. This was already evident from the increased tendency of some vulnerable households and individuals, such as the widowed and young people with some high school education to migrate from the Mwami area to the peri-urban areas of Chipata and other towns outside the Eastern Province, where they sought menial and service jobs, including, such anti-social livelihoods like prostitution and dealing in prohibited substances and goods.

Since livelihoods based on extraction of resources from the natural environment at low technological levels are unlikely to be sustainable, there is need for the Government to come up with social safety measures to allow the rural communities to make use of the available agricultural technologies to help rebuild their assets, households and communities. Serious environmental damage is likely to be the outcome of increased reliance on natural resources at a low level of technology. This is particularly so in the context of increased occurrence of droughts and high temperatures, which are likely to undermine the regeneration of primary resources and livelihoods based on them. Thus, unless sustainable alternative livelihoods are identified and exploited by the growing population of households turning away from agricultural based livelihoods, the non-agricultural livelihoods based on exploitation of natural resources might just prove unsustainable. Failure of non-agricultural livelihoods based on exploitation of natural resources would pose serious challenges to the survival of a growing population. Measures to enable the majority of livelihoods to return to agricultural based livelihoods are urgently needed to forestall environmental damage and expensive interventions to ensure the survival of people that have had to put up with a harsh economic environment, recurrent droughts and HIV/AIDS.

7.0 Conclusions: Implications for Welfare and Human Security of Rural Households

The conceptual framework adopted in the study of the resilience of rural households and communities to economic shocks, HIV/AIDS and recurrent droughts posited that resilience of livelihoods that are directly dependent on the exploitation of environmental resources was a function of the socio-economic and environmental realms remaining in equilibrium. This is especially so where the production systems are not supported by technological innovation to raise productivity and/or prevent degradation of the environmental resources. Any changes in either the socio-economic or the environmental realms would have a bearing on the livelihood outcomes of the households and communities exploiting the environmental resources. A review of the socio-economic context within which the residents of Mwami

area earned livelihoods revealed that the economic policy reforms undertaken by the Government of Zambia under the tutelage of the international financial institutions in the post 1991 period had created a harsh rural economic environment in which liberalization of the agricultural markets had raised prices of agricultural in-puts, and especially hybrid seeds and fertilizers beyond the reach of most rural households. At the same, poor transport infrastructure and services undermined the prices of agricultural commodities in rural areas making livelihoods entirely based on production of food crops prone to poverty.

The post reform harsh economic conditions in the Mwami area and rural areas in general were aggravated by recurrent droughts and wide-spread prevalence of HIV/AIDS. The recurrent droughts affected the livelihoods of households and communities in the Mwami area adversely, particularly since the year 2000, as three of the 8 years since 2000 have been droughty years. Floods also occurred in two of the 8 years since 2000, leaving only three of the eight years free of climatic hazards. Droughts were, however, singled out in the Mwami area as having been the most devastating, and especially the recurrent droughts of 2000/2001 and 2001/2002. The recurrent droughts were the most devastating, because they caused not only widespread crop failure, but also outbreaks of livestock diseases which made most households make distress sales of their livestock to cut their losses. Above all, the recurrent droughts forced most households in the Mwami area to exhaust their stores, including livestock the main store of value in rural areas and thereby left most households without savings. The recurrent droughts thus left most households in a precarious position, which has placed their recovery in jeopardy.

The exhaustion of stores or loss of savings coincided with adverse economic conditions characterized by high prices for agricultural in-puts, but rather poor prices for maize, the main staple and cash crop in the Mwami area. As a result, most households in the Mwami area and indeed other rural areas have been in a state of enhanced impoverishment at the very time when the national economic statistics suggest that Zambia had recorded positive economic growth rates. The country had, for example, recorded positive Gross domestic Products averaging about 5% in the period 1999 to 2007, but poverty assessments undertaken during the same period revealed increased rural poverty and worsening food insecurity, which was evident from the poor nutritional status of children. Thus, contrary to expectations, the post 1991 economic reforms worsened rather than improved the rural economy. This was in part due to decreased investments in rural infrastructure and services and reduced access to agricultural production enhancing technologies, and especially hybrid seeds and fertilizers. The hostile rural economic environment thus made adaptation to a liberalized agricultural regime difficult.

In household that had been touched by the HIV/AIDS pandemic, the difficult economic and environmental conditions were worsened by the loss of the most productive labour due to ill health and/or deaths of men and women in the prime of their lives. Adaptation to the adverse economic and environmental conditions in such households was even more difficult. The adverse social, economic and environmental conditions forced most households to turn to non-agricultural activities to earn livelihoods. In consequence, there was increased direct reliance environmental resources, such as forests and wildlife as people turned to activities such as charcoal burning, hunting and gathering as their means of livelihoods or as supplementary livelihood activities. However, given that the environment was getting increasingly hotter and drier, with temperatures forecast to increase by 2 degrees Celsius, while the rainy seasons are expected to become shorter in Southern Africa, there can be doubt that livelihoods centered on exploitation of natural resources at low levels of technology are unlikely to be sustainable.

Increased widespread reliance on environmental resources without the support of production enhancing technologies is likely to result in environmental degradation and failure livelihoods based on direct exploitation of natural resources. Measures to help the rural households adapt to the changing environmental conditions, HIV/AIDS and economic policy reforms are therefore needed rather urgently. Such measures are essential to avoid environmental degradation on a large-scale and consequent widespread hunger and large-scale movements of people from where they currently live to the urban fringes and other areas deemed potentially capable of providing impoverished populations some means of sustenance. This is likely to be the case, because increased exploitation of environmental resources in the context of climate change is bound to result in environmental degradation and diminished productivity of the environment and failure of livelihoods based on direct exploitation of environmental resources by an increasingly impoverished population. Adaptation to changing environmental conditions, as well as to economic policy shocks and shocks emanating of HIV/AIDS ought to be addressed concurrently to guarantee the welfare and human security of rural households, such as those of the Mwami area, in Chipata in Eastern Zambia.

References

Ali, Ali Abdel Gadir, Germano Mwabu and Rachel K. Gesami (2002) **"Poverty reduction in Africa: Challenges and Policy Options"**, Nairobi: African Economic Research Consortium.

Anandajayasekeram, Ponniah and Mandivamba Rukuni (1999) "**Agricultural Research and Poverty Alleviation: Lessons from Eastern and Southern Africa**", unpublished paper presented to a Workshop on Assessing the Impact of Agriculture Research on Poverty Alleviation, San Jose, Sept 14-16, 1999.

Aspaas, Helen Ruth () "AIDS and Orphans in Uganda: Geographical and Gender Interpretations of Household Resources" in Social Science Journal, Vol. 36, No. 2, p. 201-226.

Bahiigwa, Godfrey, Ntengua Mdoe and Frank Ellis (2005) "Livelihoods research findings and agriculture led growth" in IDS Bulletin, Vol. 36, No, 2., p.115-120.

Barbier, Edward (2000) "The economic linkages between rural poverty and land degradation: Some evidence from Africa" in Agriculture, Ecosystems and Environment, Vol. 82, P. 355-370

Booysen, Frikkie., Servaas van der Berg, Ronelle Burger, Michael von Maltitz and Gideon Du Rand (2008) "Using an asset index to assess trends in poverty in seven Sub-Saharan African Countries", in World Development, Vol. 36, No. 6, p. 1113-1130.

Bryceson, Deborah Fahy and Joddie Fonseca (2006) "An Enduring or Dying Peasantry? Interactive impacts of famine and HIV/AIDS in Rural Malawi" in Interaction of Famine and HIV.

Bryceson, D. and L. Banks (2000) "End of an era: Africa's Development Policy Parallax" in Journal of Contemporary African Studies, Vol. 19, No. 1, p. 5-25.

Cannon, Terry, John Twigg and Jennifer Rowell (2002) **"Social vulnerability, Sustainable livelihoods and Disasters"**, Report to DFID and Sustainable Livelihoods Support Office.

Central Statistics Office (2008) Zambia Demographic Health Survey 2007 Preliminary Report, Lusaka: Central Statistics Office.

Chileshe, Jonathan H. (1999) Alderman Safeli Hannock Chileshe A Tribute to (the man) His Life and History, Ndola: Mission Press.

Cohen, D. (1999) "Sustainable development and the HIV Epidemic in Africa" in G. Mutangadura and H. Jackson (eds.) AIDS and African Smallholder Agriculture, Harare: Southern African AIDS Information Dissemination Service (SAFAIDS).

Cohen, D. (1998) "**Poverty and HIV/AIDS in Sub-Saharan Africa**", New York: UNDP.

Copestakes, James G. (1997) **"Encouraging sustainable Smallholder Agriculture in Zambia"**, Gloucester: Centre for Development Studies, University of Bath, DFID Agricultural Services Reform in Southern Africa, R6452CA.

Cornia, Giovanni Andrea and Fabio Zagonari (2007) "The HIV and AIDS Impact on the Rural and Urban Economy" in Giovanni Andrea Cornia (ed.) AIDS, Public Policy and Child Well-Being, Florence: UNICEF Innocenti Research Centre.

De Grassi, Aaron () "Envisioning futures of African Agriculture: Representation, Power and Socially Constituted Time"

Delgado, Christopher L. (1997) **"Africa's changing agricultural development strategies**", Washington: IFPRI 2020 Brief.

Drimie, Scott (2002) "**The Impact of HIV/AIDS on Rural Households and Land Issues in Southern Africa"**, Background Paper prepared for the Food and Agricultural Organization, Sub-Regional Office for Southern Africa.

Drinkwater, Michael, Margaret McEwan and Fiona Samuels (2006) The effects of HIV/AIDS on Agricultural production systems in Zambia: A restudy 1993-2005, Lusaka: RENEWAL, CARE International, HIV/AIDS Alliance, FAO and SIDA.

Duncan, Alex (1998) "The food security challenge for Southern Africa" in Food Policy, Vol. 23, No. 6, p. 459-475.

Ellis, Frank, Milton Kutengule and Alfred Nyasulu (2003) "Livelihoods and rural poverty reduction in Malawi" in World Development, Vol. 31, No. 9, p. 1495-1510.

Farming Systems Association of Zambia (2003) Inter-linkages Between HIV/AIDS, Agricultural Production and Food Security, Rome: Food and Agricultural Organization.

Food and Agricultural Organization (1995) The effect of HIV/AIDS on farming systems in Eastern Africa, Rome: FAO Publications.

Food and Agricultural Organization (1994) What has AIDS to do with Agriculture, Rome: FAO Publications.

Fraser, Evan D. G. (2006) "Food system vulnerability: using past famines to help understand how food systems may adapt to climate change" in Ecological Complexity, Vol. 3, p. 328-335.

Fusse, Hans-Martin (2008) "Vulnerability: A generally applicable conceptual framework for climate change research" in Global Environmental Change, Vol. 17, pp.155-167.

Government of the Republic of Zambia (2007) National Adaptation Programme of Action (NAPA), Lusaka: Ministry of Tourism, Environment and Natural Resources.

Government of the Republic of Zambia (2007) National Policy on Environment, Lusaka: Ministry of Tourism, Environment and Natural Resources.

Haddad, Lawrence and Stuart Gillespie (2001) **"Effective Food and Nutrition Policy Responses to HIV/AIDS: What we know and what we need to know"**, Washington, D.C.: IFPRI FCND DP No. 112.

Harrigan, Jane (2003) "U-Turns and Full Circles: Two decades of Agricultural Reform in Malawi 1981-2000" in World Development, Vol. 31, No. 5, p. 847-863.

Havnevik, Kjell., Deborah Bryceson, Lars-Erik Birgegard, Prosper Mtonda and Atakitte Beyene (2007) "**African agriculture and the World Bank development or impoverishment,** Report based on a Nordic Africa Institute Workshop, May 13-14, 2007, Uppsala: Nordic Africa Institute.

Hazell, Peter and Lawrence Haddad (2001) **"Agricultural research and poverty reduction**" Washington, D. C.: IFPRI, Food, Agriculture and the Environment, Discussion Paper No. 34.

Heisler, Helmuth (1974) Urbanisation and the Government of Migration the Interaction of Urban and Rural Life in Zambia, London: C. Hurst.

Hlanze, zakhe., Thanky Gama and Sibusiso Mondlane (2005) **"Impact of HIV/AIDS and Drought on Local Knowledge Systems for Agro-biodiversity and Food Security",** Mbabane: FAO-Links Swaziland Report No. 50.

Howard, Julie A. and Catherine Mungoma (1996) **Zambia's Stop-and-Go Revolution: The Impact of Policies and Organisations on the Development and Spread of Maize Technology,** East Lansing: Michigan State University International Development Working Paper No. 61

Hunter, Lori M. and Wayne Twine (2006) **"HIV/AIDS and Household use of Natural Resources: Critical Linkages and Remaining Questions",** Population Environment Research Network's Cyberseminar on Household Micro-Demographics, Livelihoods and the Environment.

Ianchovichina, Elena and Sussanna Lundstrom (2008) **"What are the Constraints to Inclusive Growth in Zambia?"** Background Paper for preparing the World Bank's Country Assessment Strategy for Zambia, Washinton, D.C.: The World Bank

Jain Suman (2007) "**An Empirical Economic Assessment of Impacts of Climate Change on Agriculture in Zambia**", Washington, D.C.: World Bank Working Paper No. 4291.

Jansen, Doris J. and Andrew Rukovu (1992) **"Agriculture and the Policy Environment: Zambia and Zimbabwe, Political Dreams and Policy Nightmares",** Paris: OECD Dev. Centre, Working Paper No. 74.

Jayne, T. S., D. Mather and E. Mghenyi (2006) **"Smallholder Farming Under Increasingly Difficult Circumstances: Policy and Public Investment Priorities**", MSU International Development Working Paper No. 86, East Lansing: Michigan State University.

Kalinda, Thomson H. (2002) "Agriculture and Food Security in Zambia" in African Social Research, No. 43and 44, p. 61-78

Kimenyi, Mwangi S. (2006) **"Economic reform and pro-poor growth: Lessons for Africa and other developing regions and economic transition"**, University of Connecticut, Department of Economics working Paper Series, No. 2006-02.

Lecoq, Frank and Zmarak Shalizi (2007) "**How might climate change affect economic growth in Developing Countries? A review of the growth literature with a climate lens",** Washington, D. C.: World Bank Working Paper, No. 4315.

Malungo, J. R. S. (2001) Sexual Cleansing (Kusalazya) and Levirate Marriage (Kunjilila mung'anda) in the era of AIDS: Changes in Perceptions and Practices in Zambia", Social Science and Medicine, Vol. 53, P. 371-382.

McPherson, Malcom F. (1995) **"The sequencing of economic reforms: Lessons from Zambia",** Paper presented to the Working Group on Economic Reform in the context of Political Liberalization, Harvard University.

Minten, Bart and Christopher B. Barret (2008) "Agricultural technology, Productivity and poverty in Madagascar", World Development, Vol. 36, No. 5, p. 797-822.

Orr, Alastair and Blessings Mwale (2001) "Adapting to adjustment: Smallholder livelihood srrategies in Southern Malawi" in World Development, Vol. 29, No. 8, p. 1325-1343.

Ostrom, Elinor (2008) "Editorial: Frameworks and theories of environmental change" in Global Environmental Change, Vol. 18, p. 249-252.

Parkins, John R. and Bill white (2007) "**Assessment of Forest Dependent Communities: A Scoping Report"**, Forest communities Working Group, Canada.

Poulton, Colin and Andrew Dorward (2002) **"The role of market based economic development in strengthening food security"** London: Centre for Development and Poverty Reduction, Department of Agricultural Sciences.

Renkow, Mitch (2000) "Poverty, productivity and production environment: A review of evidence" in Food Policy, Vol. 25, p. 463-478.

Rosegrant, Mark W., Srah A. Cline, Weibo Li, Timothy B. Sulser, and Rowena A. Valmonte-Santos (2005) **"Looking ahead long-term prospects for Africa's Agricultural Development and Food Security**", Washington, D. C.: IFPRI 2020 Discussion Paper No. 41.

Sandoy, Ingvild F., Gunnar Kvale, Charles Michelo and Knut Fylkesnes (2006) "Antenatal clinic based HIV prevalence in Zambia: Declining trends but sharp local contrasts in young women" in Tropical Medicine and International Health, Vol. 11, No. 6, p. 917-928.

Scoones, Ian, Stephen Devereux and Lawrence Haddad (2005) "Introduction: New Directions for African Agriculture" in IDS Bulletin, Vol. 36, No. 2, p. 1-12.

Seshamani, Venkatesh (1998) "The impact of market liberalization on food security in Zambia" in Food Policy, Vol. 23, No. 6, p. 539-551.

Simler, Kenneth R. (1997) "**The transition to market-based agricultural economy in Malawi: A multi-market analysis**", New York: Cornell Food and Nutrition Policy Program.

Slater, Rachel, Leo Peskett, Eva Ludi and David Brown (2007) Climate change, agricultural policy and poverty reduction-how much do we know? London: Overseas Development Institute, Natural Resource Perspective 109.

Stringer, Elisabeth M., Namwinga T. Chintu, Jens W. Levy, Moses Sinkala, Benjamin H. Chi, Jubra Muyanga, Marc Bulterys, Maxmilian Bweupe, Karen Megazzini and Jeffrey S. A. Stringer (2008) "Declining HIV prevalence among young pregnant women in Lusaka, Zambia", Bulletin of the World Health Organization, Article DOI: 10.2471/07.045260, p. 1-11.

Thurlow, James and Peter Wobst (2004) "**The road to pro-poor growth in Zambia: Past Lessons and Future Challenges"**, Washington, D. C.: DSGD, WDC IFPRI Discussion Paper No. 16.

Tschirley, David L. and T. S. Jayne (2007) **"Food crises and food markets: What has been learned in Southern Africa over the past decade?"** Paper presented to the FAO Global Information and Early Warning System (GIEWS) on Food and Agriculture Trade and Markets Division, Rome: FAO.

Watts, Michael J. and Hans G. Bohle (1993) "The space of vulnerability: The Causal structure of hunger and famine" in Progress in Human Geography, Vol. 17, No. 43, p. 43-67.

White, Howard, Tony Killick in collaboration with Kayizzi-Mugerwa and M. A. Savane (2001) African poverty at the millennium: Causes, Complexities and Challenges, Washington, D. C.: The World Bank.

Wicherns, Rainer, Ulrich Hauser and Dennis K. Chiwele (1999) **"Impediments to agricultural growth in Zambia",** Washington, D. C.: IFPRI, Trade and Macro-Economic Division, TMD Discussion Paper No. 47.

World Bank (2008) World Development Report 2008, Washington, DC: The World Bank.

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