

Direct Agricultural Production Assets Transfer and Poverty Upward Mobility in  
Rural Zambia:

A Domestic Life Cycle Perspective

by

MUYUNDA Martin Wamunyima

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Approved by the Dissertation Committee:

Koichi USAMI (Chairperson)

Shoko YAMADA

Aya OKADA

Approved by the GSID Committee: March 6, 2014

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## List of Acronyms

ADP	Animal Draft Power
AGRA	Alliance for the Green Revolution in Africa
CAC	Camp Agricultural Committee
CPRC	Chronic Poverty Research Centre
CSO	Central Statistics Office (Zambia)
DAC	District Agricultural Committee
DfID	Department for International Development
FAO	Food and Agricultural Organization (of the United Nations)
FSP	Farmer Support Program
GDP	Gross Domestic Product
JICA	Japan International Cooperation Agency
LCMS	Living Conditions Monitoring Survey
MACO	Ministry of Agriculture and Cooperatives
PEA	Participatory Extension Approach
PaViDIA	Participatory Village Development in Isolated Areas
PRSP	Poverty Reduction Strategy Paper
T and V	Training and Visit
UN	United Nations
USAID	United States Agency for International Development
WDR	World Development Report
ZMK	Zambian <i>Kwacha</i> (currency)

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# **CHAPTER 1 – INTRODUCTION**

## **1.1. Background**

### **1.1.1. Problem Statement and Objective**

How poverty is conceptualized determines its measures and consequently the policy prescriptions designed to eliminate it. According to Alejandro (2001), the main feature of poverty is the inability to mobilize adequate resources to meet basic requirements at community, household or individual level. Poverty in Zambia is a prominently rural phenomenon where it affects 78% of the population, compared with 28% in urban areas (CSO, 2010).

In Zambia, poverty mitigation programs based on agricultural production assets transfer have been implemented to help the poor transform their social economic relationships. Transfer of agricultural production assets is a more suitable form of social protection for developing countries like Zambia where the majority of the population is rural based and dependent on subsistence agriculture for a livelihood. According to the Chronic Poverty Report of 2008, social protection, particularly social support such as through agricultural production assets transfer, can help poor people forestall asset depletion and thus have a chance to build an asset base that can better their wellbeing through improved productivity. Knowledge about poverty from the point of view of assets is important in determining whether lighter poverty experiences among the poor reflect asset accumulation and improved returns to their assets. According to Carter and Barret (2006), there exists an asset poverty line which can help predict the same level of welfare as the money metric poverty line, and there is also a dynamic asset threshold that can help discern

households whose current asset status forecasts improved future welfare from those whose current asset status forecasts a level of welfare below the poverty line. Provision of agricultural production assets represents a coordinated push that should dramatically increase the poor's productive capital and move their asset base towards the threshold necessary to take the first step out of poverty.

Poverty mitigation programs based on the income paradigm have not significantly changed pre-transfer poverty because they are designed to help maintain people by supporting consumption (Danziger & Plotnick, 1986). Social protection interventions using assets transfer on the other hand, can lead to positive social economic outcomes because the assets are more often than not used to create opportunities, and thus increase well-being in ways that income cannot (Shobe & Page-Adams, 2001). Assets can lead to concrete planning about the future, which in turn can contribute to household stability, improved social participation, as well as better current and future chances for children (Shobe & Page-Adams, 2001).

Among the poor, households that can eventually improve their asset base with time as the main ally will be able to make the first steps out of poverty and this movement could take some time depending on defining household characteristics that mediate the steady state levels of assets and final equilibrium level of welfare (Carter & Barrett, 2006). For the poor, the process of asset accumulation also involves self-insurance through diversification into other assets and activity portfolios that are perceived to possess reasonable income correlations (Alderman & Paxson, 1992). These patterns of diversification are an indicator of individuals' or households' agency to exchange assets and allocate them across a number of activity portfolios in order to attain an optimum balance between factor returns and risk exposure (Barrett, Reardon, & Webb, 2012). According to the 2008 World Development Report, many households in rural areas get their

income from non-farm activities although they are also involved in farming. Kimhi (2000) further noted that between one third and two thirds of farmers in developing countries are involved in non-farm activities, and Rosenzweig (1998) adds that income from non-farm activities has been found to be essential for the welfare of rural households

A number of multidimensional measures have been used to gain insight into particular elements of poverty, including the headcount ratio which shows the incidence of poverty and estimates the proportion of total households or population that are poor. One of the weaknesses of the head count ratio is that it could remain constant even when the poor's condition is worsening and they are sliding into more severe poverty (CSO, 2010). Participatory measures of poverty on the other hand employ indicators of wellbeing for different dimensions of poverty using local definitions and bring on board the experiences of the poor themselves in disaggregating the different forms of deprivation.

While poverty mitigation programs based on agricultural production assets transfer have been implemented to help the poor transform their social economic relationships, the effect of these programs in realizing substantial poverty upward mobility has been hindered by a myriad of factors including poor targeting criteria, resulting in elite capture and high income households being beneficiaries, and failure to understand the poor's poverty situation with regards to inherent household defining characteristics and asset accumulation dynamics when they are availed agricultural production assets.

Understanding households' diversification behavior with regards to revealed preferences among feasible sets of livelihood strategies can provide important insight into what type of interventions may be effective in reducing poverty and vulnerability, and knowledge about combinations of poverty dimensions in which the poor show positive changes in experiences of

poverty when availed agricultural production assets can provide basis for predicting whether they will continue living in a poverty trap, or escape from it with time as their main ally.

Further, a household's capacity to stand in the face of poverty varies with a number of factors including its stage in the domestic life cycle. Understanding poverty according to stages in the domestic life cycle can thus provide a better insight into the dynamic responses to development interventions among households as they evolve over time. This is because each of the stages in the developmental process of households favors unique social arrangements that mediate their ability to take advantage of opportunities and put availed resources to beneficial use.

Therefore, the objective of this study is to define perceptions and experiences of poverty among households according to the different stages of the domestic life cycle using participatory measures, and clarify changes in the experienced poverty due to agricultural production assets transfer. The study further seeks to determine the defining household characteristics that could have the potential to influence utilization of agricultural production assets and household diversification strategies, and clarify the structure of poverty dimensions involved in upward mobility following acquisition of agricultural production assets.

In order to realize the objectives the following research questions are set;

- I. How do rural households in different domestic life cycle stages perceive and experience poverty prior to agricultural production assets transfer?
- II. How do rural households in different domestic life cycle stages experience poverty following transfer of agricultural production assets?
- III. Which defining household characteristics could potentially have influenced the livelihood choices behind the poverty experiences, and which structure do the improved poverty dimensionalities if any, assume?

### 1.1.2. Significance of the Study

In Zambia where major anti-poverty interventions have commonly been spearheaded by external donor agencies who lack understanding of the local situation, this study provides a cornerstone for reference in the design and implementation of micro level interventions aimed at eliminating poverty. The participatory poverty profile matrix used in the study is a unique tool that will be used as an eye opener to micro level poverty perceptions and experiences. The illumination on local level perceptions and experiences of poverty, as well as the varied responses to agricultural production assets transfer according to the domestic life cycle stages with unique defining household characteristics provide additional empirical evidence to support need for policy makers to tailor interventions to specific need areas that may respond most to particular development interventions.

Conceptually, this study contributes towards debunking the myth about failure of the poor to make reasonable steps in transforming their social and economic relationships despite repeated access to various forms of assistance. The structural approach to understanding combinations of poverty dimensions in which the poor show positive changes in experienced poverty when availed agricultural production assets can provide basis for an early warning mechanism to predict whether an individual or household is on course to create and accumulate assets towards the level necessary to make the first step out of poverty.

### 1.1.3. Organization of the Thesis

The thesis is divided into seven main chapters. The opening chapter leads to the research objective and research questions by outlining the problem statement, then focuses on the definitions and common measures of poverty. The chapter distinguishes between absolute and

relative poverty, and outlines the relation between poverty and social exclusion. It then shades light on how poverty is framed by geography, inequality and social divisions such as race and gender. The chapter ends by alluding to poverty as involving both income and asset deprivation.

Chapter two gives an impressionistic view of poverty in Sub-Saharan Africa, but narrows emphatically to the poverty situation in Zambia with its rural prominence based on recent trends, socio-cultural and economic indicators, as well as household characteristics. It then mentions targeted cash transfers, crop inputs support and agricultural production assets transfer as the main vehicles for social protection support in Zambia.

Chapter three outlines the methodology. It states the sampling and data collection procedures, as well as the scope for the research conducted, with some brief description of the situation surrounding a typical village in the study area. The chapter particularly mentions the use of participatory poverty profiling along with the brainstorming tool to consensually define the local meaning of poverty and how it is experienced. It pays particular attention to the process of consensual agreement, and also refers to the rapid appraisal conducted with local key informants including contact and lead farmers, government extension workers and other managers of asset based anti-poverty programs to solicit opinions regarding unique defining household characteristics which they perceived to have potential influence on household livelihood choices and effective utilization of granted agricultural production assets. It ends with a brief outline of tools for data analysis and interpretation.

Chapter four answers research question one. Based on the demographic characteristics of households and the poverty profile, the chapter looks at possible relations in poverty experiences between and within the domestic life cycle stages. In addition to inward migration of individuals

into the dispersion life cycle stage, the chapter notes differential experiences of poverty particularly by gender and in old age.

Chapter five is devoted to post agricultural production assets transfer changes in experiences of perceived poverty. In answering research question two, chapter five cites positive but varied poverty experiences upon agricultural production assets transfer between and within the domestic life cycle stages as proof that transfer of agricultural production assets can positively change the poor's livelihood experiences. The chapter ends with reference to possible inequitable access to household resources among those in both light and worse poverty as key factor in lighter poverty experiences that favor the male spouse.

Chapter six answers research question three and provides a framework for linking agricultural production assets transfer to defining household characteristics that could potentially influence livelihood choices leading into whether the poor may escape from the poverty trap eventually or would remain trapped in abject poverty based on which poverty dimensions they realize positive experiences in. The chapter is devoted to identification of potential unique defining household characteristics that could mediate livelihood choices and determine the ultimate household equilibrium level of well-being. After looking at household diversification behavior, the chapter then closely looks at how returns from the diversified income portfolios change experiences of poverty by its dimensionality.

Chapter seven is the conclusion and recommendations, and draws a number of key themes. The chapter points to the importance of the domestic life cycle stages in understanding the varied responses to agricultural production assets transfer which imply that different domestic life cycle stages have got unique defining characteristics that condition their ability to put availed resources to effective use, and suggesting that the upward mobility steps out of poverty do not

spontaneously cover all poverty dimensions at the same time when agricultural production assets are availed. It refers to the diversified investment of returns to transferred assets, and the consequent use of returns to diversified income portfolios in shaping a bifurcated structure of improved poverty dimensions. The chapter ends by pointing out postulations from previous studies on social support, and alludes to the importance of the findings from this study in further shaping the conceptualization of social protection for the poor in developing countries like Zambia.

## **1.2. Literature Review**

### **1.2.1. Conceptualizing Poverty**

Poverty should be conceptualized and measured because of the moral imperative that action should be taken to eliminate it. Poverty is often defined in relative terms, as not having adequate resources to enable one participate in wider society and meet the socially recognized needs. According to Lister (2004), poverty is a construction of specific societies, and its conception should be understood within particular social, cultural and historical contexts. This is supported by Calvo and Dercon (2006) who noted that the standard of living is not a static, timeless state, but one that evolves over time, following a path that has both a history and a future. Definitions of poverty can vary depending on whether they are confined to the material needs, or whether they embrace other factors including non-material elements. Nolan and Whelan (1996) argued that a much broader definition of poverty presents the danger of downplaying the important basic material needs notion of poverty. In the definition of poverty as “inability to participate in society”, Veit-Wilson (1986) observed that Nolan and Whelan confined their definition to those

areas of life where consumption expenditure or participation in society are a result of possession of financial resources, and hence excluded non-material needs. Broader United Nations definitions of poverty include inability to fully participate in making decisions that affect one, when one's human dignity is violated, lack of power, and being susceptible to violence (Lister, 2004). Lister, however, further observed that some aspects included such as inability to fully participate in making decisions that affect one or being susceptible to violence are not wholly a result of poverty as they can exist due to other causes.

The conceptualization of poverty can also be rooted in an individual or household's material resources, particularly income, or with actual outcomes in terms of standards of wellbeing and activities. Thus put together, an individual or household will be considered to be poor if they experience both a low standard of living and a low income (Gordon & Townsend, 2000). Until recently the prevailing antipoverty paradigm has been that well-being is almost exclusively dependent on income. Barrientos et al., (2005) noted that "...the poor are not a homogeneous group whose primary problem is low income..." They instead alluded to the importance of acknowledging that poverty is a permanent factor in many peoples' lives, and is many a time a consequence of numerous deprivations. This is supported by Hope (2004) who noted that poverty is multidimensional and goes beyond lack of income to include exposure to risk and vulnerability, lack of employment and a lack of social and economic services among others. Further studies by Shobe and Page-Adams (2001) have now shown that poverty involves both income and asset deprivation and that the multiple social risks faced by the poor are the underlying factors responsible for their poverty along with their exposure to the impact of the risks. This shift has been necessitated out of realization that among the most poverty stricken, income has often been seen to only maintain consumption, while as assets change the peoples'

future orientation so that they can now plan and embark on more long term pursuits (Shobe & Page-Adams, 2001). Household assets thus often provide individuals with the opportunity to shape future goals and to make concrete plans for personal, social, and economic growth.

An alternative view to the understanding of poverty can be found in the works of Amartya Sen which offers a paradigm shift towards viewing the poor as those denied choices and opportunities for an acceptable standard of well being (UNDP, 1997). Sen posited that both income and living standards are simply instrumental to the kind of life that a person is able to lead, and the choices and opportunities open in leading that life. Sen (1990) referred to “functionings” as being what a person should afford to achieve or be, and they range from mundane issues like a good diet to more complicated ones such as participation in society and realizing self-esteem. He also referred to capabilities as denoting what a person can do or be, alluding to the agency of individuals to select which way of life among different ones they can have reason to value. Sen posited that the role of money in realizing functionings varies between societies and would depend on the level at which goods and services are treated as commodities, while the relationship between money and capabilities or functionings would depend partly on how money is translated into functions or capabilities by individuals, and would vary depending on defining personal characteristics (Sen, 1990). According to Nolan and Whelan (1996), Sen’s postulations portray human beings as people with the freedom to make choices about what they want to be and do, with particular importance placed on how they allocate resources made available to them. Nolan and Whelan however caution that excessive emphasis on physical factors that affect translation of income into capabilities could encourage a constrained focus on physical needs and their physiological construction rather than social construction “...the danger of downplaying income when defining

poverty is that it can be used to justify a policy stance opposed to raising the incomes of those in poverty...” (Cited in Lister, 2004).

Poverty has often been referred to as absolute in the sense that it is viewed as not having enough income to cater for basic physical requirements. According to Ringen (1987), the absolute view is with regards to the poor’s real life needs and survival with food at the center. Ringen (1987) then noted that the notion of absolute poverty will thus not have any grounds if physiological needs are conditioned socially. Townsend (1979) additionally argued that the notion of needs being subsistence is narrow and divorced from the social context, and thus talks of relative poverty “... by which resources are so seriously below those commanded by the average individual or household that they are in effect excluded from ordinary living patterns and activities”. Townsend’s definition of poverty is built upon the concept of relative deprivation which is multifaceted and encompassing all main sectors of life. According to Townsend, people can be said to be in poverty if relative deprivation is a result of material resources. Townsend goes further by differentiating between material and social deprivation, pointing at material deprivation as one involving material goods and amenities while social deprivation implies the routine social customs and interactions.

Closely related to the concept of poverty is that of social exclusion. The meanings attached to social exclusion differ depending on cultural, economic and institutional contexts, as well as depending on political and sociological traditions (SOSTRIS, 1997). In the European Union where the term was adopted partly to avoid the term “poverty” (Veit-Wilson, 2004), a sequential relationship between poverty and social exclusion views poverty as leading to social exclusion in the sense that people are cut off from the labor market, do not take part in dominant behavioral and cultural patterns, lose social contact and live in certain stigmatized neighborhoods where they

are not reached by welfare agents. Room (1999) associates social exclusion with a sudden irreversible discontinuity of relationships between an individual and the rest of society. On the other hand, Sen (2000) views a causal relationship and stresses the diverse ways in which social exclusion can cause deprivation and poverty. Gore and Figueiredo (1997 in Lister, 2004) allude to a descriptive empirical link between poverty and social exclusion expressed in terms of a nested pattern or of degree of overlap. In some illustrations of the nested pattern, social exclusion is looked at as an extreme form of poverty that comprises variously linked multiple deprivations, and sometimes an irreversible discontinuity of relationships between an individual and the rest of society. In other formulations of the nested pattern, poverty is alternatively viewed as being one of a number of dimensions of deprivation within social exclusion that contribute to the broader state social exclusion (Berghman, 1997). When an overlapping relationship between poverty and social exclusion is portrayed, the conveyed idea is that social exclusion is more than just poverty, and it is possible for some people to experience material poverty and social exclusion at the same time, while other people can be in poverty without necessarily being socially excluded.

### 1.2.2. Discrimination, Social Divisions and the Geography of Poverty

Social divisions such as class and gender reflect social and political relationships that shape and interact with poverty and mediate how people experience it. Individual social divisions interact with each other and with phases of the domestic life cycle to either reinforce or mitigate poverty. Discrimination especially based on race and disability is often closely associated with poverty, both as cause and consequence. Poverty has geographical dimensions expressed through the notions of place and space in the sense that there are people who live in poverty, there are places

specifically associated with poverty, and because of its lived experience within the physical and social space of the neighbourhood. Understanding how poverty is framed by geography, inequality, social divisions and the domestic life cycle provides insight into both the underlying structural causal factors and the differential experience of poverty (Lister, 2004).

Gender is one of the most profound differentiating social divisions. Women face a much higher risk of deprivation compared to men, and this disparity is most visible particularly among single mothers and female headed households. According to Payne and Pantazis (1997), the likelihood of females to have experienced poverty in their lives is higher, and they are more likely to experience repeated and prolonged poverty durations compared to men. Hobcrafts (2003) further noted that the impact of poverty experienced during childhood is more pronounced among females than males. Poverty headcounts that purport to count individuals on the basis of household income on the heroic assumption of equitable distribution are likely to underestimate poverty because consumption and income distribution are unequal within families. Findings from Vogler's (1994) household survey further dispute the notion that households are equitable units in terms of decision making and resource sharing and control, with only a fifth of surveyed households confirming the egalitarian orthodoxy household model. The survey also revealed that males are more privileged in terms of daily domestic consumption of items such as food and key commodities like motor vehicles. Lister (2004) observed that this hidden female poverty reflects, on the one hand, factors that are structural and related to females' inability to fend for themselves economically, thereby perpetuating their dependency on male spouses, and on the other, the choice by females who decide to forgo their own needs in order to provide for other family members especially children. She cites this as the price women have to pay for home care within a gendered division of labour, in which males assume the role of bread winners and do much

paid-for work while females undertake unpaid domestic chores, which perpetrate their lack of access to independently earned income and promote male economic domination and power. Females' time spent on work in the home converts income into the living standards enjoyed by other family members (meals, clean clothes, clean house), and to understand the gendered nature of poverty, there is need to have insight into how much of time as a resource spouses use to convert income into living standards (or capabilities and functionings). Douthitt (1994) further observes that within a household a female spouse might be poorer than a male spouse not just with regards to income, capabilities and consumption but also in terms of the time and energy left over after the process of conversion, noting that time poverty can exist in the absence of material poverty but where the two coexist, it represents an additional poverty dimension. Lister (2004) thus concludes that the realities and ideology of women's economic dependence, their inferior position of power in the gendered division of labour, as well as continued sex discrimination and gender stereotyping are a reflection of their hidden poverty, and underlie women's position in the labour market, the household and welfare state - they differentiate the origin of female from male poverty.

Poverty is thus gendered in terms not only of incidence but also of cause and effect. This gendered experience of poverty is in turn mediated by other social divisions, notably race. According to the 2001 World Bank report, poverty in both Europe and the United States was racially and ethnically patterned, with non-white groups, immigrants, asylum seekers, Roma and indigenous peoples disproportionately likely to be poor in white-dominated societies. According to Proctor and Dalaker (2003), poverty rates for Blacks and Hispanics in the United States (US) are roughly three times higher than for non-Hispanic whites. In the United Kingdom (UK), the Department of Works and Pensions report of 2003 showed that incomes for minority groups

particularly from Bangladesh and Pakistan were skewed towards the bottom of the income distribution. Coincidentally, there is also greater deprivation among children from the same ethnic minority (Marsh & Perry, 2003). According to Lister (2004), racism and discrimination are the underlying causes of the racial patterns of poverty. Minority ethnic groups also tend to be discriminated within the welfare state through a number of ways including racist attitudes among officials, humiliating treatment, stereotyping and stigmatization of welfare dependants.

Although poverty is not an automatic outcome of disability, it is closely associated with it both as a cause and consequence. According to the 2000 United Kingdom (UK) DfID report, as many as 50% of disabilities were preventable and directly linked to poverty. The UK Department for Work and Pensions (DWP) report of 2003, on the one hand, showed that the economically and educationally disadvantaged face a significantly above average risk of disability and, on the other hand, that disability carries a high risk of poverty. The additional needs of disabled people such as special diets, equipment and transport costs, create expenses that are not faced by other people on low income. Disabled people generally experience greater material deprivation than others living in poverty due to their reduced capabilities; this is because a disabled person with equal income to a non-disabled person will have additional costs (Sen, 1992). Barnes and Baldwin (1999) further observe that while disabled people may be inevitably employed in jobs which are poorly paid, un-demanding and less rewarding by virtue of shared disadvantaged labour market position as a result of factors like social class and lack of educational qualifications, some reasons for the same are specific to disability. Disabled people are more likely to be out of employment, and when they do find a job are more likely to earn hourly wages below those of their non-disabled colleagues. Lister (2004) posits that disability specific factors should be best understood within the framework of the social model of disability which represents a rejection of the

understanding of disability in individualistic, medicalized terms in favour of locating the source of poverty among the disabled in societal reaction or inaction, leading to the exclusion of the physically and mentally impaired from full participation in mainstream social, economic and political activities. While acknowledging the inter-personal discrimination disabled people face through negative and hostile attitudes, negative stereotypes, and other social attitudes that contribute to exclusion and marginalization of the disabled, and thus exacerbate the experience of poverty, Lister (2004) points at institutional and environmental discrimination as the main cause of the poverty faced by disabled people.

Poverty affects people at different points in their lives, and is experienced in particular ways at the beginning and end of the domestic life cycle. In developing countries where pension arrangements are weak or non-existence, poverty is the main challenge faced by the elderly. A defining characteristic of poverty among the elderly is that it is more difficult to escape, and this is more so among the much old who also lack strength. For the very old, wage labour is never an option especially in societies that are cultured to view the elderly as not suitable for active participation within the labour market. Ginn et al., (2001), observed that there are differential poverty rates in old age which reflect inequitable pension arrangements during working life, and in developed countries most notably reflect underlying social classes, gender and ethnic divisions.

Childhood is another time of vulnerability to poverty. While children bring happiness into households, they also bring additional costs especially when the mother has reduced labour market activity, hence reduced earnings, due to parental care for the small child. Ruxton and Bennett (2002) note that in the European Union (EU) the risk of persistent poverty is much higher among children than adults. The tragedy of persistent childhood poverty lies in the impact

it has on children's future life chances. Poverty has got a damaging impact on children's development and subsequent educational outcomes, job prospects, health and behaviour. Ruxton and Bennett (2002) have joined calls for a child-centred perspective on poverty that places due emphasis on what poverty means for children and sees poverty through children's eyes in order to have a more informative picture.

Geographical location is as much a contributor as it is an influencer to how individuals and entire households experience poverty. The distribution of people in poverty across many developing countries has generally been associated with its urban concentration and how the poor are segregated from more affluent neighbourhoods. In some developed countries poverty has become more geographically concentrated with minority ethnic groups more likely to be found in deprived neighbourhoods. Massey (1999) notes that the growing concentration of poverty is part of the process of spatial polarization as affluence also becomes polarized "...as symbolized by the spread of gated communities in which a growing number of the affluent protect themselves from the poor". Toynbee (2003) further notes that even when rich people live side by side with the poor, the poor are invisible to the rich as the two inhabit parallel space with the better off insulated from engagement with the poor and their circumstances, hence making distance becoming social as well as spatial.

The labelling of communities as poor or deprived has often been used to describe more than the concentration of individuals in poverty (Powell et al., 2001). According to Forrest and Kearns (1999), a community's social and physical aspects, together with the infrastructure of public and private services, and facilities shape the experience of poverty. A disadvantaged physical and social environment can aggravate the effects of individual poverty and compound the misery of living on a low income. Lupton and power (2002) list characteristics of deprived communities as

including poor housing, run down physical environment, inadequate services and facilities, lack of job opportunities and high levels of crime and anti-social behaviour. Such an environment can be damaging for physical and mental health and general well-being, especially at vulnerable points in the life cycle. It can erode morale and engender feelings of lack of control and powerlessness. The damaging impact on educational and labour market opportunities associated with residence in such communities can be viewed from within the context of the wider process of social exclusion.

According to Gordon and Spicker (1999), poverty is not a purely urban phenomenon, as more people in poverty around the world live in rural areas where isolation together with immobility with regards to both the narrow everyday geographical horizons and of ability to move out, is constrained as a result of poor accessibility and lack of money, are key spatial markers of poverty. Cloke and Little (1997) further observe that the invisibility of the rural poor is often different from that of urban counterparts, whereas the rural poor see the affluence, but are themselves not seen by the affluent, thus making a geography of stigma that is hard to carry because of being different in a small community.

### 1.2.3. Measures of Poverty

Measurements of poverty that depict its extent and severity ultimately provide the justification for action to eliminate it. Different measurements of poverty can produce different results with little overlap between those identified as poor. Hence the choices made on the type of measurements to use especially by governments could reflect political as well as social scientific considerations (Veit-Wilson, 2004). According to Nolan and Whetlan (1996), measurements of

poverty involve first its indicators and then the standard against which the indicators are to be assessed (also called the poverty line). Sen (1976) distinguishes between two steps in the measurements of poverty: the criteria for determining the poor from the non-poor are defined in the first identification step. The second step involves aggregation of the data on the poor into an overall poverty index. Following Sen (1976), a person's resources are evaluated whether they are sufficient to achieve a cut off in income space known as the poverty line. The poverty line represents a threshold below which people are counted as poor, and there are different approaches to setting it: arbitrary approaches are unrelated to the criteria of need or deprivation and include minimum income levels underpinning official poverty estimates; scientific approaches are grounded in either expert or democratic or participatory estimates of needs and all involve experts' judgment to some extent. Professional expert approaches use budget standards through which a "basket" of itemized goods and services is given value to suit a variety of households in order to establish a poverty threshold, and involve expert judgment about the items to include together with their quantity, quality and price (Veit-Wilson, 1998). Democratic approaches are also referred to as consensual, and draw on the views of the general population rather than only those from professional experts. Participatory approaches, unlike the other approaches are not designed to establishing poverty lines. They are premised on the belief that people in poverty are themselves experts in poverty and their views should thus be taken on board at all times as subjects and not just objects of research. Robb (2002) observes that engaging with the poor can lead to a better design and implementation of solutions. McGee and Brock (2001) noted that emphasis on quantitative measures of poverty can suppress other forms of poverty knowledge and alternative narratives which are better tapped through participatory approaches. Lister (2004)

thus concludes that participatory approaches can uncover meanings and provide insight into experience of poverty, and quantitative poverty itself can be informed by participatory methods.

Poverty measurements are commonly based on income or living standards (consumption) and expenditure because poverty is often conceptualized with regards to an individual or household's material resources, particularly income, or the outcome from income (or material resources) in terms of wellbeing and activities. While income is often used as a proxy for consumption or living standards, there is emerging evidence suggesting that it may be an imperfect indicator of deprivation of living standards (Nolan and Whetlan, 1996). Lister (2004) notes that individuals or households may experience a low standard of wellbeing not necessarily because of current low income, or could experience low income but forestall deprivation by various means such as running down savings or getting into debt, and suggests that where living standards are part of the poverty definition, both direct (income) and indirect measures (consumption) are needed. Lister further argues that the use of expenditure both as a measure of income and a proxy for living standards is similarly less reliable, citing its lumpy nature because of occasional large purchases, and its elision of borrowing and saving. Additionally, from the perspective of individuals rather than households, the expenditure of one person, such as the mother, may improve the living standards of others in the household rather than her own. Townsend (1979) thus suggests the need to measure the total material resources including financial and other capital assets as well as the value of public services. Barret and Carter (2006) observe that income or household expenditure data over a given time period is the most common basis for poverty measures. The use of income as a measure of wellbeing is premised on the belief that expenditure on goods and services is dependent on the sum total of income possessed by an

individual at any one time. Households commonly use income to meet their daily basic needs such as on nutrition, shelter, clothes, education support to children as well as health (CSO, 2010).

Once a flow based poverty line has been identified, the population can be separated into poor and non-poor categories, and the standard suite of headcount and other Foster-Greer-Thorbecke (FGT) poverty measures (Foster, Greer, & Thorbecke, 1984) can be calculated to gain insight into the extent, depth and severity of poverty. The single period P-alpha ( $P_\alpha$ ) poverty measure is defined as:

$$P_\alpha = \frac{1}{N} \sum_{i=1}^N I_i \left[ \frac{U - U_i}{U} \right]^\alpha$$

Where:

$N$  = the sample size

$\underline{U}$  = the money metric poverty line

$U_i$  = money metric measure of welfare (income or expenditures)

$I_i$  = an indicator variable taking value of 1 if  $U_i < \underline{U}$  and zero otherwise

$\alpha$  = parameter reflecting the weight placed on the severity of poverty.

When  $\alpha = 0$  the result is the headcount poverty index  $P_0$  which is the proportion of the total population that falls below the flow based poverty line. The headcount ratio  $P_{\alpha=0}$ , is an estimate of the proportion of the population whose expenditure falls below the poverty line and considered to be poor. The headcount index is commonly used to compare wellbeing in different places over time, and is a good tool for evaluating success in poverty reduction. One of the weaknesses of the headcount ratio is that it could remain static when the depth and experiences of poverty are worsening (CSO, 2010). The higher order measure  $P_1$  results into the poverty gap index. This

ratio suggests the amount of income that individuals or households would be required to contribute so as to eliminate poverty and is sometimes referred to as the Per Capita Aggregate Poverty Gap Ratio (CSO, 2010). The higher order measure  $P_2$  is the squared poverty gap (an indicator of poverty severity that is sensitive to the distribution of well-being amongst the poor). Kakwani (2002) notes that the Poverty Gap Ratio ( $P_1$ ) and the Poverty severity Index ( $P_2$ ) not only meet the focus axiom but also meet the monotonicity and weak transfer axioms of a good poverty measure.

According to Grootaert and Kanbur (1995), households can be distinguished between the chronically poor, transitorily poor, and those who are never poor. The main feature of chronic poverty is its persistence over time. According to Hulme et al., (1990), an individual or household can be said to be chronically poor if their observed wellbeing over time is below the minimum level acceptable in a given polity. Barrientos et al., (2005) note that while it may be difficult to differentiate chronic from transient poverty in real life, chronic poverty is often viewed to be a result of inadequate welfare promoting assets, such as productive assets like land, financial capital or human capital, different from transient poverty which is viewed as being a result of the variations in the returns to these assets. Barrientos et al., (2005) then allude to two main approaches to operational definitions of chronic poverty: The first approach focuses on the period under which an individual or household lives in poverty over a given time, and a chronically poor household is accordingly defined as one whose per capita income or consumption levels are below or at the flow based poverty line at each or most points of observation. Households that are persistently below the poverty line constitute the chronic poor. Households which show variations in income or consumption around the poverty line are considered to be in transient poverty if all or most of the observations are above the poverty line.

The second approach considers deficits in income or consumption over a given period of time; according to the permanent income hypothesis (Ravallion, 1988; Jalan & Ravallion, 2001), income and consumption have constant and fluctuating components which can be demonstrated empirically; households whose constant income or consumption components are below or at the poverty line are considered to be chronically poor.

In updating findings from previous studies on poverty dynamics in developing countries, Hoddinott (2003) notes that a big proportion of overall poverty is transitory, pointing at the inherent stochasticity of money metric measures of welfare as a result of a large proportion of transitory poverty based on income or expenditure. Hoddinott (2003) cites this as the reason why some people may be found to be better off at some point than other times and yet have no reasonable change in their defining conditions especially with regards to their own productive asset portfolios, just because of fluctuations in prices and yields.

Improvements to the commonly used poverty analysis have not been effective in differentiating structural from stochastic poverty transitions, thereby limiting their efficacy in showing whether an economy is truly working for its least in society. Measurement of poverty in asset space was reformulated by Carter and May (1999) in order to overcome these problems by the second generation poverty measures. They identified an asset poverty line which essentially predicts the same levels of well-being as the commonly used money metric based concept of an income poverty line (Figure 1.1). The importance of assets in determining a household's wellbeing is well established. The 2001 World Development Report acknowledges the centrality of physical assets in determining whether or not individuals or households will continue living in poverty or eventually escape it. The report further confirms the core function of assets in addressing the constant features of poverty, namely coping with shocks and reduction of

vulnerability. Unlike the flow based poverty line, the asset poverty line can distinguish between stochastic and structural poverty transitions, rendering decomposition of poverty transitions easier. Carter and May (1999) further argue that the asset poverty line can be used as starting point for constructing a suite of structural poverty indicators that would give a portrait of structural poverty less the influence of stochastic transitions:

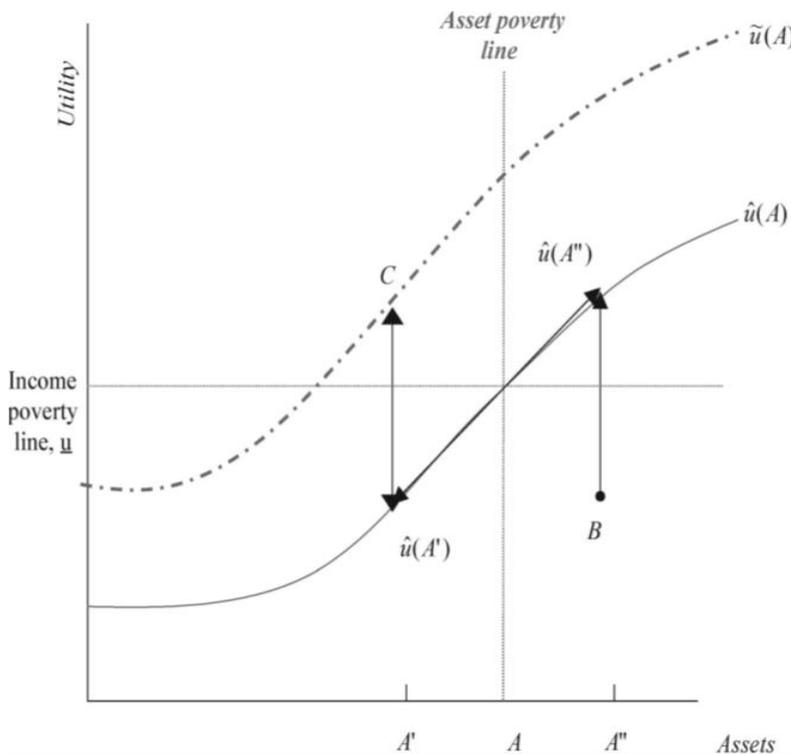


Figure 1.1: The asset poverty line  
 Source: Adopted from Carter and Barret, 2006 (Figure 2, pp182)

According to Figure 1.1, the asset poverty line is denoted  $\underline{A}$ , and is the level of assets that predicts a level of welfare which is equal to the flow based poverty line denoted  $\underline{u}$ . In the livelihood functions indicated, at any time period, an individual or household is stochastically poor if their asset level is at least at  $\underline{A}$  but yet their achieved income or expenditure level is below

$\underline{u}$ . Alternatively, the individual or household are structurally poor if their asset portfolio is less than  $\underline{A}$  and its achieved income is below  $\underline{u}$ . Therefore, a household that moves eventually from above to below the flow based poverty line has simply made a stochastic transition and reverted to its expected status if its asset base still predicts a standard of living below the poverty line. (This is shown as the drop from point  $C$  back to the point  $\hat{u}(A')$ ). Conversely, an individual or household that drops from  $\hat{u}(A'')$  to  $\hat{u}(A')$  has made a structural transition to below the flow based poverty line due to a loss of assets from  $A''$  to  $A'$ . Similarly, an individual or household who makes the opposite movement from below to above the flow based poverty line could be said to have made a structural transition if the achieved assets portfolio predicts expenditure initially below the poverty line at  $\hat{u}(A')$ , but in the subsequent period assets yield expected expenditures above the flow based poverty line. A shift like this could take place in the event of asset accumulation that moves the individual or household to point  $\hat{u}(A'')$ , or because of improved returns to the household's stock of assets, and the livelihood function shifts from  $\hat{u}(A)$  to  $\tilde{u}(A)$ , elevating expected and observed expenditures from  $\hat{u}(A')$  to point  $C$ . The movement from point  $B$  to  $\hat{u}(A'')$  merely reflects a return to a household's expected welfare level given its asset holdings and the livelihood function mapping assets into expenditures, and is a stochastic transition out of poverty. The Foster, Greer and Thorbecke class of measures can also be defined around the asset poverty line,  $\underline{A}$  as follows:

$$P_{\alpha}^A = \frac{1}{N} \sum_{i=1}^N J_{\Gamma}^A \left[ \frac{A - A_i}{\underline{A}} \right]^{\alpha}$$

Where:

$A_i$  = asset stock of household  $i$

$I_i^A$  = the binary indicator variable = 1 if  $A_i < \underline{A}$  and reflects whether the household  $i$ 's asset stock falls below the static asset poverty line. The order zero measure,  $P_0^A$  provides a head-count measure of the structurally poor, while  $P_1^A$  measures magnitude of the average asset transfer (or accumulation) needed to bring the structurally poor just up to the asset poverty line. Analogous to the flow-based FGT measures, higher order asset poverty measures ( $\alpha > 2$ ) will be sensitive to the distribution of assets amongst the poor.

Carter and Barret (2006) further observed that third generation poverty analysis based on the asset poverty line do not by themselves tell whether those who are structurally poor now will remain trapped in poverty, or if some of those who are structurally non-poor will sustainably maintain their non-poor status over a prolonged period. They consequently propose further disaggregation of the poor and non-poor depending on their long term recurrent poverty conditions based on a conceptualization of their underlying patterns of asset accumulation dynamics. They define the dynamic asset poverty threshold as the key to further disaggregation of present structural poverty into its persistent and largely transitory components.

## **CHAPTER 2 – POVERTY IN ZAMBIA AND ITS MITIGATION INTERVENTIONS**

### **2.1. Zambia Poverty as a Sub-Saharan Phenomenon**

Poor performance with regards to national economic growth is by far the root cause of persistent poverty. Dercon (2009) noted that poverty is generally a rural phenomenon in many countries and often affects those who depend on agriculture for a living. Despite substantial gains in world-wide poverty reduction and elimination of hunger, not much has been achieved in Sub-Saharan Africa. According to Haile (2005), a large proportion of the population in Sub-Saharan Africa is presently exposed to persistent food shortages and famine, and is vulnerable to hunger and chronic malnutrition. Ravallion et al., (2007) further noted that the incidence of poverty is highest in sub Saharan Africa where it affects 75% of the rural poor who make up close to 65% of national populations. In studies conducted in Lesotho, it was found that most of the worst experiences of poverty were among certain social groups, especially rural households, larger households, female-headed households, and households with older heads (May & Roberts, 2005). This was supported by Hulme and Turner (1990) who alluded to the presence of an inverse correlation between child health and family size, and further cited the works of Mamdani (1972) who noted that the high rates of fertility occurring in many countries were not simply viewed as a cause of poverty but also a consequence of poverty.

Although there were substantial reductions in the proportion of the rural poor between 1993 and 2003 among developing countries, this was most notable in East Asia and the Pacific, and the situation was the opposite for Sub-Saharan Africa which registered increasing numbers in the

rural poor. According to the 2008 World Development Report, the number of the rural poor in Sub-Saharan Africa will continue to rise and may surpass that for the urban poor by 2040. Haile (2005) noted that with up to 50% of the population living in poverty, Sub-Saharan Africa leads the world in the proportion of people living below the poverty line. While rapid agricultural growth played a key role in the economic transformation of Asia where poverty was most prevalent about a half century ago, Hazell and Braun (2006) noted that the same could not be achieved in Sub-Saharan Africa where the population continues to face extreme poverty and hunger. Further, unlike in Asia and Latin America where close to 50% of the rural labor pool is involved in the non-farm economy or agricultural labor market, self-employment in agriculture is the norm in Sub-Saharan Africa especially for women among the rural labor pool. Hazell and Braun (1996) alluded to the need for appropriate government and donor policies, improvement of rural infrastructure as well as access to agricultural innovation as necessary for Sub-Saharan Africa to achieve the kind of rapid economic growth as had taken place in Asia.

## **2.2. Recent Trends in Zambian Poverty**

Poverty reduction and economic inequality remain the major challenges facing Zambia today. Despite the recent turnaround in the economy as shown by real GDP growth of more than 5%, the majority of Zambians continue to live in poverty. A large segment of the population has for a long time been exposed to stringent economic reforms as well as unpredictably harsh weather conditions that monotonically increased their vulnerability to poverty over time. This prolonged exposure to both human and naturally induced hazards has entrenched poverty in the lives of many Zambians. Despite the Zambian economy continuing to register positive real GDP growth

of not less than 5% since 2005, there has been no notable corresponding improvement in the wellbeing of the people, especially in rural areas, thereby putting into doubt the attainment of the first Millennium Development Goals (MDG) of reducing the levels of poverty by 2015.

A comparison between the 2006 and 2010 Living Conditions Monitoring Survey (LCMS) results indicate that poverty levels remained persistently high despite recording a slight decline between 2006 and 2010 (Figure 2.1)

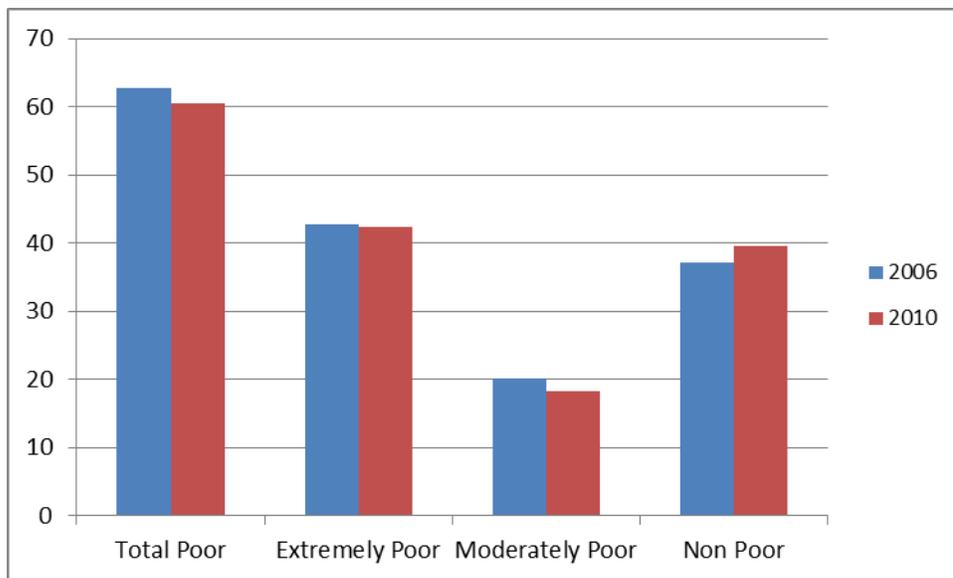


Figure 2.1: Marginal changes in poverty rates in Zambia (Year 2006 and 2010)  
Source: Adopted from CSO, 2010 (Figure 12.1, pp181)

According to Figure 2.1, the proportion of the population falling below the poverty line reduced 2.3% from 62.8% in 2006 to 60.5% in 2010. Further characterisation of poverty by level of intensity however reveals that the majority of the population were afflicted by extreme levels of poverty. In 2010, the extremely poor accounted for about 42% of the total population. The proportion of the extremely poor marginally declined from 42.7% to 42.3%, compared to moderate poverty, which reduced from 20.1% to 18.2% during the same period. These results

indicate that a large segment of the population is still unable to afford the cost of a minimum food basket.

Poverty in Zambia has continued to be more of a rural than an urban phenomenon partly because of recurrent unfavourable weather conditions. Figure 2.2 shows the percentage of the population that is poor by rural/urban comparison between 2006 and 2010.

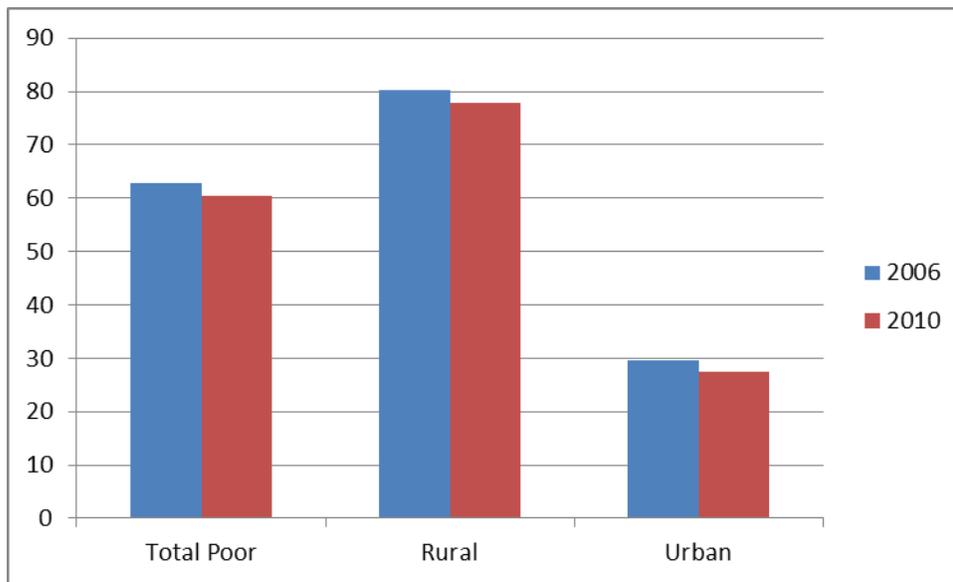


Figure 2.2: Rural prominence of poverty in Zambia (Year 2006 and 2010)  
Source: Adopted from CSO, 2010 (Figure 12.2, pp181)

According to Figure 2.2, in 2006, rural poverty was estimated at 80.3% compared to urban levels of 29.7%. The same pattern was revealed in 2010 when headcount poverty was as high as 77.9% in rural areas compared to urban poverty levels of 27.5%. Although these results showed that both rural and urban poverty declined roughly by 2 percentage points between 2006 and 2010, from 80.3% to 77.9% and from 29.7% to 27.5% respectively, the level of rural poverty is still more than twice that obtaining in urban areas. Further examination of levels of extreme poverty by each of the country's nine provinces reveal that extreme poverty has continued to

remain high especially in the predominantly rural provinces including Luapula, Western, Eastern and Northern Provinces, with a sharp increase in extreme poverty in Luapula Province between 2006 and 2010, from 53.6% to 64.9%. Eastern, North-Western and Lusaka Provinces also recorded some marginal increase in extreme poverty. Only Central and Southern Provinces revealed declines in the levels of extreme poverty.

The Poverty Depth Ratio is a welfare indicator that not only identifies the poor but also shows how far they are below the poverty line. It also gives an indication of the required resources if all the poor were to be brought just on to the poverty line. The wider the poverty gap the fatter the required poverty reduction resource envelope (CSO, 2010). Results from the 2006 and 2010 LCMSs revealed that the Poverty Gap Ratio remained much wider in rural than in urban areas. Poverty remained much deeper in Western, followed by Luapula, Eastern and Northern Provinces.

During the 2006 and 2010 LCMS, all households were explicitly stratified into groups based on the scale of their agricultural activities and type of residential area. Rural households were in this case divided into small, medium and large scale farming households, and non-agricultural households. Conversely, urban households were classified based on the local authorities' classification of residential areas, which was mainly determined by the degree of servicing of the area with paved roads, water and sanitation, plot size and population density. This stratification was motivated by the understanding that poverty estimates at the aggregate level tend to mask a lot of heterogeneity at the lower levels. The stratification showed that poverty rates among rural small scale farming households and low cost households were extremely high compared to the large scale farming households and high cost households of rural and urban areas respectively. In rural areas, the incidence of poverty was generally higher beginning with small scale farming

households, followed respectively by medium scale farming households and non-agricultural households. It was lowest among large scale farming households. In the case of urban areas, higher levels of poverty were observed among households residing in low cost areas, and the rate of poverty was lowest among households residing in high cost areas. Results further revealed that the incidence of poverty barely changed among small scale farming households between 2006 and 2010, from 81.5% to 79.9%, while it remained almost static among medium scale farming households, at about 70%. However, the rate of poverty dropped quite drastically among non-agricultural and large scale farming households, from 68.2% to 53.5% and from 33.2% to 25.1% respectively. In urban areas, the incidence of poverty barely changed among households residing in low and high cost areas, almost remaining at the 2006 level of about 35% and 5% respectively. On the other hand, households in medium cost areas experienced quite significant poverty reduction of about 5 percent points during the same period, from 13.8% to 8.5%.

These findings indicate that the problem of extreme deprivation is more pronounced in rural than urban areas and that it is more common among the small and medium scale farming household categories. They also show that a significant proportion of households in low cost areas have remained victims of extreme poverty since 2006.

### **2.3. The Demography of Poverty in Zambia**

A number of studies in Zambia including poverty mapping have shown strong correlation between incidence of poverty and various household characteristics, such as size of household, age, gender, education and economic activity status of the household head. A large number of households have become increasingly vulnerable to poverty due to many factors, including

inadequate social security or lack of old age social security scheme, loss of breadwinner especially during the advent of HIV/AIDS, high dependency ratio or large families as a result of the orphan explosion, poor job opportunities as a result of poor education background, and widespread unemployment. The studies have also revealed that the majority of females attain their household headship as a result of inadvertent loss of a spouse to death or divorce, who, in many instances, turns out to have been the breadwinner.

A comparison of data Results from the 2006 and 2010 LCMS indicated that rural poverty levels were higher among female than male headed households. In 2006, headcount poverty among female headed rural households was as high as 84.5% compared to 79.4% for male headed rural households. In the 2010 LCMS, the same pattern was observed, with estimated overall poverty rates of 77.5% among male headed households and 79.8% among the female headed households.

In terms of age of household head in both rural and urban areas, data for both 2006 and 2010 showed a similar pattern of progressive increase in poverty as the household head aged. The rate of poverty among households headed by youthful persons (15-34 years) was much lower (less than 60%) compared to households headed by elderly persons (55 years and above), which was over 70%. The rate of poverty was highest among rural households headed by elderly persons (over 80%), compared to that observed among similar households in urban areas (below 60%). These data thus revealed that the problem of poverty was more rife among households headed by elderly persons in rural areas than in urban areas, and suggested the need for some old age social protection scheme to help mitigate individuals' susceptibility to poverty as they grow older (CSO, 2010).

In terms of household size, data for both 2006 and 2010 reveals higher levels of poverty in rural areas than in urban areas of the country. There is a positive relationship between poverty and

household size, with the rate of poverty steadily increasing as the size of the household increases from one to more than nine members. Between 2006 and 2010, smaller households recorded a reduction in poverty compared to larger households, which only recorded marginal declines. By 2010, poverty levels for larger households of more than six individuals were still over 60%, while the rate of poverty for 3-4 member households was estimated at 49.6%.

With regards to education level attained by the head of household, data revealed an inverse relationship between the level of education attained and the poverty rate. There was a progressive decline in the rate of poverty as a person’s education level increases, with poverty nearly inconspicuous among urban households headed by individuals with tertiary education (Figure 2.3).

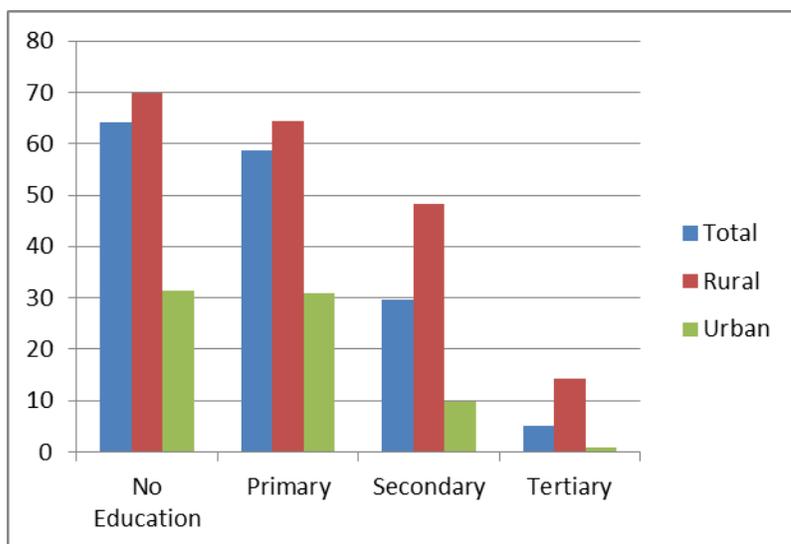


Figure 2.3: Relation between poverty and education level of head of household

Source: Adopted from CSO, 2010 (Figure 12.21. pp196)

Notable, however, from the results is the little difference that primary education makes on poverty when compared to those with no education background. Further the proportion of the

extremely poor in the no education category was almost twice that under the secondary education category.

According to the 2010 LCMS, in rural areas, most of the households (28%) reported that the reason they considered themselves as poor was that they “could not afford agricultural inputs”. This was followed by “lack of capital to expand output” at 7%. Other agricultural related reasons were also reported, including “lack of agricultural inputs due to other reasons” (6.6%), “lack of cattle/oxen” (6.5%) and “low agricultural production” (5.3%). This reflects the perceived importance of the agricultural sector in lifting rural households out of poverty. “Salary/wage too low” and “lack of employment opportunities” were also cited as main reasons for being poor, with 5% of rural households reporting both of these reasons.

In urban areas “wage/salary being too low” and “lack of employment opportunities” were the most commonly reported reasons for poverty at 25% and 18% respectively, reflecting the differing economic profiles of urban households as compared to rural households. Also important as reasons for poverty in urban households were “hard economic times” and “prices of commodities being too high” reported by 7% and 6% of households respectively.

## **2.4. Social-Cultural and Economic Indicators of Poverty in Zambia**

Zambia’s economy is heavily dependent on the copper mining industry. However, the majority of the population (65%) lives in rural areas and is dependent on subsistence agriculture for its livelihood. Although the country boasts of close to 20% of the sub region’s water resources, they are mainly untapped and it still faces serious crop failures due to draught and erratic rain fall.

Poverty among many rural households in Zambia can be understood from the point of view of improvements in education and health services, meals had per day, quality of housing, good sanitation and access to safe water for drinking.(CSO, 2010).

#### 2.4.1. Education and Health

Zambia has seen improvements in primary school enrolments and corresponding reductions in school drop-out rates over the last few years. There have also been some substantial reductions in infant mortality rates in both urban and rural areas over the last decade. According to the 2007 Zambia Demographic and Health Survey (ZDHS), some significant reductions in HIV/AIDS prevalence have also been recorded (CSO, 2010).

#### 2.4.2. Meals per Day

Zambia's staple food is *nshima* and is made from dried maize (corn) meal. It is commonly taken as lunch and supper with a protein, preferably meat or fish, and some vegetables which may be indigenous or exotic. Meals for breakfast vary from bread or buns to the more seasonal groundnuts, sweet potatoes or cassava, with a cup of tea.

According to the 2010 LCMS, at national level, the proportion of households eating more than three meals a day has remained the same at 2% between 2006 and 2010. However, the proportion of households taking three meals a day increased from 42% in 2006 to 47% in 2010. In addition, the proportion of households reporting taking only one meal a day declined from 5% in 2006 to 4% in 2010. A much greater proportion of urban households were taking three meals a day as compared to rural households, with the proportions at 61% and 40% respectively. Both urban and

rural households have seen an increase of 2 percent points and 7 percent points respectively in the proportion of households taking three meals a day. However, there were slightly fewer rural households taking only one meal a day as compared to urban households, with the proportions at 3% and 5% respectively. Provincial analysis showed that Southern Province had the highest proportion of households (69.7%) taking three meals a day in 2010, an increase from 63% in 2006. Lusaka Province had the highest proportion of households taking three meals a day in 2006; however, this figure declined to 62.6% in 2010. In 2006, Western Province had the highest proportion of households (13%) taking only one meal a day, while in 2010 the province with the highest proportion of households (7.7%) taking only one meal a day was Copperbelt Province.

Further, on average, male headed households took more meals per day than female headed households: 44% of female headed households were taking three meals a day compared to 49% of male headed households. However, the rate of increase in proportions was higher for female headed households. The proportion of female headed households taking three meals a day increased by 7 percent points since 2006 compared to 6 percent points for male headed households.

#### 2.4.3. Housing

A traditional house in Zambia is commonly grass thatched with a single demarcation for sleeping and sitting. In worst cases the wall can also be of grass but generally ranges from loose mud mortar on poles to traditionally burnt bricks. Improvements to the traditional house include use of corrugated roofing sheets or commercial cement for the walls and floors, and more detached rooms.

An analysis of the 2010 LCMS showed that in rural areas, the most common type of dwelling was traditional hut (56%) whereas in urban areas it was detached house (46%). However, in rural areas, there was a decline in the proportion of households living in traditional huts by 10 percentage points, from 66% in 2006 to 56% in 2010. The number of rural households living in improved traditional houses and detached houses increased from 24% to 28% and from 8% to 14% respectively. In all provinces, Northern and North-Western Provinces experienced the greatest decline in the proportion of households living in traditional huts, while Luapula Province recorded an increase.

#### 2.4.4. Water and Sanitation

Access to clean and safe water for drinking has been at the top of Government agenda for some time. Common sources of water in Zambia include rivers or streams, lakes, protected and unprotected wells, boreholes, and tap water. Water from protected wells, boreholes and taps is generally considered to be safe for drinking.

According to the 2010 LCMS, the proportion of households with access to safe water sources increased from 41% in 2006 to 49% in 2010. Most of this increase was due to access to protected wells and boreholes in rural areas. A comparison of the 2010 and 2006 LCMSs by provinces showed that Lusaka Province had the highest proportion of households with access to safe drinking water at 89%, although it recorded a decline since 2006. This contrasted with Eastern and Luapula Provinces where access to safe drinking water increased by more than 10%. Despite this sharp increase, access to safe drinking water remained very low in Luapula Province, at 28%. Northern Province had the lowest proportion of households with access to safe drinking water

sources in 2010, at 27%. In 2010, access to safe drinking water sources was lower for households classified as poor, with 48% for the extremely poor and 55% for the moderately poor, as compared to 75% for the non-poor.

Zambia health authorities encourage residents to always boil their drinking water as a precaution although public supplied water is always chlorinated for safe drinking. Water treatment is encouraged especially for those households whose main sources of drinking water were considered unsafe such as from rivers or streams, lakes and unprotected wells. According to the 2010 LCMS, the proportion of rural households who treated or boiled their drinking water increased from about 20% in 2006 to 25% in 2010. Among the provinces, Copperbelt and Lusaka provinces had the largest number of households who treated or boiled their drinking water, at 59% and 51% respectively. Western Province reported the lowest proportion of households treating or boiling their drinking water. The proportion of households treating their drinking water increased in Central, North-Western and Southern Provinces.

#### 2.4.5. Infrastructure

##### *Connection to National Electricity Grid*

The state-owned Zambia Electricity Supply Corporation (ZESCO) is the sole provider of electricity in Zambia. According to Mulozi (2008), hydro power generation in Zambia was originally designed to supply the copper mines with no plans to connect remote rural areas to the grid. Rural electrification gained momentum after 2003 following the government establishment of the Rural Electrification Authority (REA). According to the 2010 LCMS, only 5% of households in rural areas were connected to the national electricity grid compared to 53% of their

urban counterparts. Among the provinces, the number of households with electricity connections was highest in Lusaka (61%), followed by Copperbelt (45%). Western, Luapula and Eastern Provinces had the lowest rates of connectivity, ranging between 4% and 5%.

### *Telecommunication*

Provision of telecommunication services in Zambia is dominated by three main providers namely MTN, ZAMTEL and Airtel, with the state owned Zambia Telecommunications Company (ZAMTEL) owning the main infrastructure and provision of land line services. The land line telecommunication system is quite poor and does not cover much of rural areas. There are a number of internet service providers who mainly use Very Small Aperture Terminal access. Although the three main mobile service providers continue to expand into rural areas, the cost of accessing the internet using mobile phones is quite high. According to Mulozi (2008), internet connectivity in rural areas is affected by a lack of energy infrastructure. Results of the 2010 Living Conditions Monitoring Survey revealed that the least most used facility in rural areas was internet café with only 16% of the population alluding to having used (compared to other rural facilities like hammer mill with 93%)

Radio and Television services covering the country including most rural areas are provided by the state owned Zambia National Broadcasting Corporation (ZNBC). There are some private community radio stations in some rural districts, and the capital Lusaka, also has private Television stations.

### *Road Network*

Zambia's main trunk road network has seen some significant improvements over the last decade. All provincial capitals as well as main international border crossings are linked to the capital city with paved roads. According to Foster and Dominique (2010), with over 80% of paved roads in good condition, Zambia's roads could be ahead of some resource-rich African countries and compare well with neighbouring middle income countries. The creation of a Road Development Agency in 2000 has led to a steady flow of funds to the road sector. Despite the impressive trunk road network, the country's rural roads accessibility is comparatively poor. With more than two thirds of the rural population dependent on farming for a living, less than 20% of this population lives within 2 kilometres of an all-weather road (Foster & Dominique, 2010).

According to the 2010 Chronic Poverty Report, the poor are commonly found in outlying areas which are distant from main markets. With poor accessibility, they are cut off from main growth processes. Improved transport infrastructure helps to reduce transaction costs and protects consumers from possible imposition of market prices by organized cartels.

#### 2.4.6. Ethnicity and Family Structure

According to the 2008 Chronic Poverty Report, the position of an individual whether in a household or the community can contribute to their entrapment in poverty. The report notes that people may be entrapped in poverty or escape from it depending on the nature of social relationships they find themselves in, citing such social structures as gender roles or ethnicity as being products of locally specific social orders. The poor are quite often tied to relationships that

deny them choice and an opportunity to be heard despite some degree of protection from destitution. After independence from British rule in 1964, Zambia became an ethnically diverse state with about 75 different dialects. Ethnicity is one of the common modes of group identification in both urban and rural areas of Zambia and it continues to provide a basis for social action and political mobilization. Ethnic identity in Zambia may be perceived in many other ways including according to race, culture, religion, language or place of origin. Unique combinations of these items often differentiate the ethnic community from the rest of society and provide the basis for self-consciousness among members of the ethnic community. Ethnicity is often commonly used to monopolize places of occupation in rural areas of Zambia.

The extended family is the most prevalent domestic structure in Zambia. In the country's context, a couple's biological offspring are not considered as "dependents" per se. Dependents to a family could instead range from widows, divorcees, orphans or the physically challenged. When extra farm labor is required then the extra hands are often mobilized along kinship lines. It is considered both natural and proper to support and exact support from one's kinfolk in every sphere of activity and a person cannot deny obligations to kin without offending deeply-rooted values. It is thus normal in Zambia rural areas for one to count many people among one's relatives.

An average Zambian rural nuclear family has 8 members. As Hulme and Turner (1990) note, having a large family in rural Zambia is a rational strategy for survival. For many poor families, an additional child is not only an inherent source of satisfaction and pleasure but also has economic value. Within a few years a child can contribute to family welfare e.g. herding cattle, fetching firewood. In the long run parents with large families have greater likelihood of support in old age which makes the household less vulnerable (Mamdani, 1972). The high rates of

fertility occurring in rural Zambia are thus not simply viewed as a cause of poverty but also a consequence of poverty. According to Hulme and Turner (1990) there is an inverse correlation between child health and family size.

#### 2.4.7. Inequality

Since Zambia became independent, the gap between the country's rich and poor has grown tremendously. Zambia is one of the countries with higher inequality indexes in Sub-Saharan Africa. Much of the gainful economic activities in the country are concentrated along the line of rail, specifically in the highly urbanised Copperbelt and Lusaka Provinces. The rest of the country is fairly underdeveloped and its labour is mainly dependent on subsistence agriculture (CSO, 2010).

The main problem that high expenditure inequality causes to the development agenda of poverty reduction is that it erodes all the gains that are associated with income or economic growth. Therefore, in order for economic growth to be pro-poor, it should be accompanied by progressive redistribution of income in favour of the poor. The Gini coefficient (G) is one of the most used measures of inequality. It is a direct measure of expenditure differences that pass the Pigou-Dalton transfer condition (CSO, 2010). The Pigou-Dalton transfer condition requires that the Gini coefficient reduces whenever there is a transfer from a richer person to a poorer person (CSO, 2010). It ranges from 0 to 1, with a 0 coefficient representing total equality in income, and 1 representing total inequality. A Gini coefficient of 0.75 thus represents a high incidence of inequality in consumption distribution, and a Gini coefficient like 0.15 would represent equity in income/consumption distribution.

The 2010 LCMS used per capita household expenditure as opposed to per adult equivalent expenditure as a measure of the levels of inequality. According to the 2010 LCMS, between 2006 and 2010, the overall Gini coefficient for Zambia was over 50%, an indication that expenditure has continued to be unevenly distributed among the population (Table 2.1). Expenditure inequalities were however more pronounced in urban than rural areas (50% and 46% respectively). Whereas inequality reduced in rural areas from 48% to 46%, it remained at the 2006 level of 50% in urban areas. Lusaka and Western Provinces recorded marginal increases in inequality, whereas North-Western Province maintained the 2006 level. The remaining provinces recorded some decline in inequality during the period 2006-2010.

Table 2.1: Gini expenditure inequality by rural/urban and province

Comparison Area	Gini Coefficient	
	2006	2010
All Zambia	0.56	0.55
Rural Areas	0.48	0.46
Urban Areas	0.5	0.5
Central Province	0.52	0.49
Copperbelt Province	0.51	0.5
Eastern Province	0.53	0.49
Luapula Province	0.52	0.5
Lusaka Province	0.53	0.54
Northern Province	0.52	0.5
North-Western Province	0.53	0.53

Source: CSO, 2010

## **2.5. Social Protection Interventions in Zambia**

### **2.5.1. Social Protection and Poverty Mitigation**

The use of social protection as an effective tool for tackling poverty and vulnerability can be confirmed from the numerous programs being put into operation in a number of developing countries. According to Conway, de Haan and Norton (2000), actions undertaken by society in response to vulnerability, deprivation and risk levels that are considered unacceptable in any given polity constitute social protection. The International Labour Organization (ILO) on one hand looks at social protection in terms of individual or households' access to support provided by society for purposes of protection against diminishing standards of living as a result of vulnerability to risk (Van Ginneken, 2000). The ILO thus links social protection to particular institutions, rules and those activities aimed at providing the necessary protection to individuals or households faced with poverty and deprivation, and groups these into three broad categories namely social insurance, social assistance and labour market regulation. The United Nations (UN) on the other hand defines social protection in terms of access to basic needs including participation in the labor market, to imply that social protection should provide for the basic needs in order to realize growth and development (UN, 2000). The Social Protection Strategy Paper of the World Bank dramatizes the need for mitigating social risk, noting that vulnerability to hazards is a major draw-back on growth and development and hence the need to cut down on the probability of its occurrence (Barrientos & Hulme, 2008). The different definitions of social protection reflect different conceptual underpinnings and policy frameworks. The rights based argument for social protection postulates citizens' right to social protection as provided by the state and points to natural law, constitutional and international law as well as the human needs

theory as the three main sources of these human rights. Natural law is theology driven and mostly based on the need to respect humanity's inherent dignity, while constitutional and international law are legalistic and based on world states' or nation states' treaties ratification or constitutional conferment of rights on citizens respectively. Proponents of the human needs theory based human rights see human rights as part of a moral philosophy in which human needs are required in order for people to be and remain moral agents (Doyal, Len, & Gough, 1991).

According to Rodrik (1997), globalization and economic transformation have been the major factors in the rise of the need for social protection. de Haan (2000) then noted that the role of social protection is to not only address the symptoms of poverty but tackle its root causes by providing support to the poor. Social protection thus assumes that the root causes of poverty should be sought within the limitations faced by the poor when attempting to take advantage of economic opportunities due to their susceptibility to the effect of economic and other hazards. Without social protection the poor's living standards would be negatively impacted and they may be motivated into risk-averse behavior that is detrimental to their long term welfare.

Provision of social protection to the most needy in poor countries presents a significant challenge as these countries most often also lack the analytical, planning and implementation capacities of social assistance institutions. Developing countries need to consider and try a range of design options that reflect local conditions and institutions. The type of social protection trajectory followed should thus not necessarily be the same between countries and regions. This is especially so in some sub Saharan African countries where the tax base is narrow, GDP per Capita are lowest, unemployment is rife, majority of populations are semi-illiterates, mostly inhabiting outlying areas and dependent on subsistence agriculture for a livelihood. In this

context, social protection goes beyond social security, social assistance and safety nets contrary to the common beliefs in developed countries.

Social work scholar and educator, Michael Sherraden (1988, 1991) suggested that both income poverty and asset poverty need to be remedied in order to enhance the wellbeing of economically vulnerable individuals, families, and communities. According to the World Bank (2001), social protection programs should not be viewed as costs but investments because they help build the ability of the poor to cut down and mitigate social risk. The key to reduction of poverty through social protection thus lies in the emphasis on general productive investment particularly human capital development

In line with the *Zambian Government* desire to reduce the high poverty levels prevalent most especially among the rural population, a number of social investment programs have been put into operation by Government and with cooperating partners, and can be distinguished into three broad categories;

#### 2.5.2. Income Transfers

Income transfers to the rural poor in Zambia were first noticeably introduced as a pilot program run jointly by the Government Ministry of Community Development and Social Services and the German Technical Assistance to Zambia (GTZ) in the southern province of Zambia in 2003. The income transfer scheme was initially a pilot to test whether social cash transfers could be effective in improving the welfare of the economically destitute and incapacitated households (Schubert, 2008). The scheme targeted households, not individuals, meeting two criteria: 1) they were critically poor, suffering from chronic hunger, malnutrition, in danger of starvation, or

dependent on begging and 2) they were incapacitated, bread winners were ill or dead, no person of working age in the household was able-bodied, or the household had a high dependency ratio.

Each household approved by the scheme received ZMK30 (US\$7.5) monthly in cash, increased to US\$10 for households with children. The ZMK30 was the equivalent of the average price of a 50kg bag of maize meal, which is the national staple food. According to Schubert (2004), the poorest 10 percent of rural households in the southern province of Zambia consumed on average one meal a day. If the beneficiary households spent the transfer on buying the maize, then they would be able to have a second meal. The transfer was not expected to lift the beneficiaries out of poverty, but was expected to lift them from critical food deprivation. The beneficiaries were, however, free to spend the transfers in any way they wished without any pre conditions, and individual agency to make a choice was assumed.

The purpose of the cash transfers was clearly explained and understood by heads of beneficiary households who made rational use of them. They bought basic necessities such as food soap and blankets, with some households investing some of the transfers into crop seed, getting the crop field ploughed by neighbors, or buying a chicken or a goat to rear and re-sale (Schubert, 2008). Some beneficiaries with savings accounts left part of the transfers in the accounts so as to use the money later in the year when food would become scarce. Other beneficiaries with bank accounts saved part of their transfers in order to invest later in assets such as chickens, goats and blankets. A number of beneficiaries using pay points started a traditional micro-credit scheme known as *Chilimba*, composed of around five mostly female members who would contribute part of their monthly transfer to one person who then uses the money as capital; the next month another group member would receive; and the rest would wait for their turn on monthly basis. Sixty one percent of the beneficiaries were school going child heads of households who not only benefitted in terms

of better nutrition but also in terms of meeting their school requirements such as books, pencils, clothing and soap.

Beneficiary households confirmed that the transfers had improved their wellbeing and had given them hope. Village headmen reported that the incidence of begging had been significantly reduced by the scheme. Local school headmasters reported that children from beneficiary households had substantial improvements in attendance and appearance (Schubert, 2008).

Following the pilot cash transfer program in southern province by GTZ, a number of bilateral and multilateral cooperating partners have implemented cash transfer programs including the USAID, who supported a cash transfer scheme in a number of districts in the western province of Zambia. Such was a conditional transfer targeting HIV/AIDS orphaned children and encouraged beneficiary households to enroll and support orphaned children into school.

One of the noted shortcomings for conditional cash transfers has been the absence of basic social services that would-be beneficiaries would need to seek out in order to satisfy the conditions for transfer. Hanlon et al., (2010) reported of primary schools in Chipata district, Eastern Province of Zambia, where children from conditional cash transfer households were turned away because there were no additional places. They also reported of two failed attempts to introduce conditional cash transfers for child health programs because of a lack of clinics.

In a study of community based targeting of cash transfer beneficiaries in Zambia, a number of problems were revealed. In the Eastern Province, half of targeted beneficiaries were not poor as per initial criteria, and 80% of the local population believed that powerful households had preferential access. In the Southern Province, poverty levels of chosen households were not any different from those households who were not selected. Despite close supervision, there was evidence of elite capture and high income households were included. Eighty seven percent of

Community Welfare Assistance Committee members responsible for identifying beneficiaries said that they came under pressure from family members or friends, 47% experienced pressure from village headmen or other local leaders (Hanlon, Barrientos, & Hulme, 2010).

### 2.5.3. Crops Input Support Program

Zambian farming households can be differentiated into 5 main categories based on hectareage cultivated, motivation for engagement in farming, level of skilled farm labor and level of mechanization. Large commercial and medium commercial farming households are highly mechanized with highly skilled farm managers. They only differ in that the former are mostly on export production and cultivate more than 20 hectares at a time, while the latter mostly produce for the domestic market on not more than 20 hectares at a time. Emergent farming households commonly cultivate between 5 and 10 hectares mostly for the local market and often hire seasonal semi-skilled labor. They usually own means of farm power, commonly ox-drawn. Small scale farming households usually cultivate between 1 and 5 hectares for household food security mainly, but partly also for income generation using family labor, but can hire additional hands during peak operations with payment in kind. Subsistent farming households commonly cultivate not more than 1 hectare at a time using own labor because they own no means of mechanization, in addition, farming is not their main source of livelihood.

The Farmer Support Program (FSP) was designed to improve access to affordable improved inputs – mainly maize seed and fertilizer, and reduce food insecurity and poverty levels among the subsistent and small scale rural farming households. It was also meant to help cushion small scale and subsistent farming households from the adverse effects of unfavorable weather

conditions that destroyed their asset base. Under the program, beneficiary farming households are required to be members of cooperatives which are within agricultural camps that are overseen by public extension workers. There are CACs which vet aspiring beneficiaries within the agricultural camp, and also there are DACs which oversee inputs disbursements for all agricultural camps in a district. Beneficiary cooperative members get subsidized inputs during the first year, and the subsidy is gradually reduced until the farming household graduates after three agricultural seasons. The FSP has been in operation since 2002/2004 rain-fed agricultural season and by 2009 had managed to distribute a total of 422,000 Metric Tons of fertilizer, valued at ZMK1, 361.1 billion, to cover about 1,505,000 hectares of small scale maize fields.

A similarly run program is the Food Security Pack which targets “Vulnerable but Viable” small scale farmers with free input packs of cereal grain, pulses and oil crops for household food and nutritional security.

Although the FSP has had an impressive record of performance, there has been some concerns raised by stakeholders with regards to its efficiency and effectiveness; the DACs which are charged with vetting beneficiary cooperatives and farmer organizations are in most cases non-existent or poorly constituted leading to recurrent cases of inaccurate targeting and selection of beneficiaries. There have also been cases of elite capture involving disbursement of inputs to high income households, in addition to a lack of a clear inventory of actual beneficiaries.

Delays by the Ministry of Finance in disbursing funds to suppliers, coupled with a tedious tendering process have often led to disturbances in smooth input supply and related service delivery. Another area of concern has been the FSP’s apparent limited impact on beneficiaries’ productivity and the consequent household and national food security. According to the Central Statistics Office and Ministry of Agriculture crop forecast data of 2004, FSP beneficiaries’

average expected yield was a meagre 2 Metric Tons per hectare compared to a minimum of 3 Metric Tons per hectare for non-beneficiaries, alluding to inefficient input use among FSP beneficiaries and consequently reduced household food security.

The implementation of the FSP has been fraught with recurrent inconsistencies on the part of Government, particularly with regards to subsidy levels and beneficiary graduation. In the program design, government subsidy was planned to decrease to 25% in the second year after starting at 50% followed by farmer graduation in the third year. Additionally, program beneficiaries were to contribute 50% towards the input costs during the first year, and increase to 75% and 100% respectively in the second and third year. This has however not been the case and the government subsidy has been fluctuating thereby making it difficult to wean off the program beneficiaries. The FSP is also known to lack in-built monitoring and evaluation mechanisms to ensure smooth program implementation.

Other Government led programs involved in farming inputs disbursements to individual small scale farming households include the CASPP which has been availing individual small scale farmers with starter inputs for promotion of Conservation Agriculture ([www.fao.org/fileadmin/user\\_upload/ISFP/Zambia\\_Lessons](http://www.fao.org/fileadmin/user_upload/ISFP/Zambia_Lessons)). CASPP aims at up scaling conservation agricultural production for increased Productivity and Production among small scale farmers in Zambia. The program is implemented jointly by the MACO and the FAO. Its anticipated longer vision include increased adoption of environmentally friendly farming systems leading to improved food supply, reduce hunger, countering food prices, and improve responses to food emergency crisis by extending the area of land under conservation agricultural practices. AGRA is a partnership program with MACO aimed at promoting rapid growth on smallholder farms and to transform agriculture into a highly productive, sustainable and competitive system

through provision of improved varieties of maize, beans, sorghum, groundnuts and cowpea to small scale farmers (<http://www.agra.org/AGRA/en/where-we-work/agra-in-zambia/>).

#### 2.5.4. Agricultural Production Assets Transfer

In line with Zambian Government desire to use Agriculture as a launch pad to catapult agriculture dependent rural dwellers out of poverty, a number of social investment programs have been put into operation through which non-financial agricultural production assets are channeled to targeted beneficiaries. This is premised on the understanding that agriculture is a major productive sector for poorer nations like Zambia, and employment in agricultural activities has the potential to provide livelihoods for majority of the poor. Agriculture not only impacts on the economy but on levels of social welfare (Hulme & Turner, 1990).

In 2002 GRZ with support from the JICA introduced the PaViDIA project as a strategy for poverty alleviation and livelihoods improvements through agricultural production assets transfer in isolated areas of Zambia (<http://www.pavidia.org.zm/top-english.html>).

The PaViDIA concept was derived from the Participatory Sustainable Village Development (PaSViD) initially piloted in Bangladesh, and modified over 5 years to realign it along Zambian field realities. Key distinguishing features of the methodology include 1) an opportunity for beneficiary village members to identify their own vision for future wellbeing through utilization of local resources such as financial capital, physical capital, social capital, natural capital and human capital; 2) Targeting the village as the sustainable unit of intervention, covering all stakeholders from rich to poor and the marginalized; 3) Participation, by all village members

including females, youths and the elderly; 4) At the core of the PaViDIA methodology has been Provision of grant assistance as supplement on village community effort.

The grant assistance works as seed money and is used to acquire productive assets that may be communally used to improve on the communal stock of capital, or utilized at individual household level in a “pass on” arrangement by which other village members will be able to also acquire and own similar productive assets. Communal assets acquired include agricultural processing machinery like hammer mills and grain de-hurlers, village retail shops or animal draft power packages, while small livestock like chickens, goats and pigs would be raised at individual household level, with part of stock paid into the village resource pool for “passing on” to other households or selling to generate communal income for other village welfare investments.

Over years of implementation, some adjustments have been made to the methodology to make it more responsive to the challenge of facilitating asset creation and accumulation at both individual household and communal level: 1) A shift from problem solving approach to resource based analysis was necessitated after realizing that village members would always have a shopping list of problems whose cause was always lack of money; 2) The resource based approach recognized that villages had a lot of resources which were just under-utilized, and encouraged village members to link their perceived problems to available local resources; 3) There was also a refocus from physical development such as infrastructure construction, to capacity development to enable more efficient utilization of already available infrastructure, representing a shift from using seed money less on physical capital creation and more on human capital creation; 4) Initially, village members would embark on stand-alone micro projects, like a village retail shop with animal draft power packages which could not complement each other. A change to income generating activities that took advantage of strategic complementarities were

encouraged, for example acquisition of animal draft power packages at village level and production of vegetables by individual households in order to utilize animal draft power for field preparation and distant vegetable market transportation; and 5) In the early stages, the approach put too much emphasis on community development with no clear picture of benefits to individual households. This tended to create apathy in communal labor pooling and participation in village assets creation activities. A change in emphasis to more seed money at individual household level seemed to encourage village members to be active in community development activities.

Other cooperating partners in Zambia also implement interventions to transfer agricultural production assets directly to beneficiary individuals and communities, including Heifer International, a global nonprofit project aimed at ending poverty and hunger ([http://en.wikipedia.org/wiki/Heifer\\_International](http://en.wikipedia.org/wiki/Heifer_International)), by giving out gifts of livestock, seeds and trees on “Pass-On-Basis”, and extensive training to needy rural farming homesteads. The Program for Luapula Agricultural and Rural Development (PLARD) is an initiative supported by the Royal Government of Finland through the Finnish International Development Agency (FINNIDA) and encourages Farmer Groups and Associations to access a grant facility for agricultural development (<https://www.devex.com/en/projects/program-for-luapula-agricultural-and-rural-development-phase-ii-2010-2014-plard-ii-in-zambia>). A latter component of the program borrowed from the PaViDIA methodology to disburse seed money for individual household income generating activities.

## CHAPTER 3 – METHODOLOGY

### 3.1. Sampling and Data Collection

Information rich cases (Minichiello, 1990) were selected from Kalabo and Shangombo districts of the Western Province of Zambia (Figure 3.1). According to the 2006 Living Conditions Monitoring Survey (LCMS), the Western Province is the most stricken by poverty out of the country's nine provinces, and Shangombo District is the poorest district in the Western Province followed by Kalabo District.

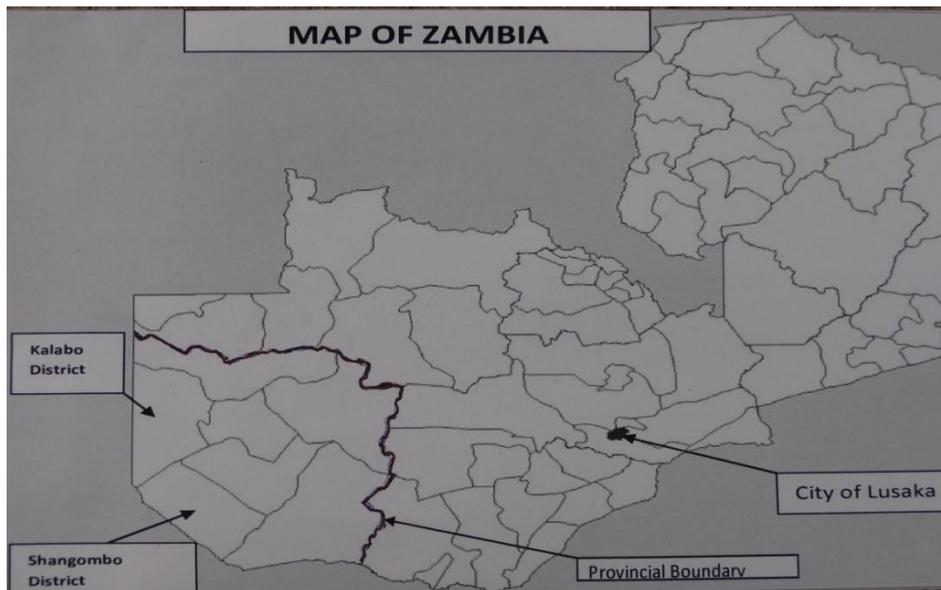


Figure 3.1: Location of Kalabo and Shangombo districts in Zambia

Source: URL, [www.commonswikimedia.org](http://www.commonswikimedia.org) (Date of access, 16<sup>th</sup> April, 2013)

The districts are quite similar and uniform in terms of cultural practices, ethnicity, marriage patterns and access to social amenities. They have common features such as poor road networks,

subsistent farming being a major livelihood source and less development interventions by non-governmental organizations and donor agencies. Their remoteness from main service centers has partly led to an autarkic local economy bordering on household self-sufficiency. Any external development interventions in the districts are therefore likely to make tangible differences in poverty experiences among intervention beneficiaries compared to non-beneficiaries. Due to the unavailability of panel data to use as base line, villages without development interventions were selected as proxies for pre-development intervention villages. In this study, therefore, the pre and post development intervention refers to either assets transfer versus none-assets transfer or beneficiary versus none-beneficiary scenarios. Assets disbursed during development intervention included brooder chickens to individual households and ADP packages (oxen and accompanying equipment) kept communally at village level. Only households participating in the agricultural production asset transfer program for 5 to 7 years up to December, 2011 were targeted

Understanding poverty according to stages in the domestic life cycle can provide a better insight into the dynamic responses to development interventions among households as they evolve over time. The domestic life cycle is made of three main stages respectively 1) the reproductive, representing the initial family formation, 2) the intermediate, representing maturing family development and 3) the dispersion, when parents are aging and children graduate into independent households (Alejandro, 2001). According to the Zambia Central Statistics Office (CSO), citizens from 18 years of age and above are considered as adults. Adults up to the age of 35 years are referred to as youths (Kaunda, 1974), and represent the reproductive stage. Fifty five years is the mandatory retirement age for public service workers (GRZ, 1996), and represents the upper limit of the intermediate stage. Adults above 55 years are considered to be

elderly and therefore in the dispersion stage. Each stage therefore represents a particular age group.

Limiting the sample to only villages consisting of 75 or more households, 5 non-asset benefiting villages and another 5 asset benefiting villages were randomly identified. Households in identified villages were stratified based on age group of household heads (male spouses) to satisfy stages of the domestic life cycle. Stratified households were then given numbers based on overall village household-head age distribution proportion. Five households from each stage of the domestic life cycle in each village of the two categories were randomly selected using a table of random numbers. Spouses from the selected households (both asset and non-asset benefiting) were the main respondents for the study. A total of 300 individuals were thus interviewed from the two sets of 75 households.

A semi structured questionnaire was used to collect data on perceptions and experiences of poverty among non-asset and asset benefiting households. Other tools used for data collection included 1) In-Depth Interviews, for gaining access to, and an understanding of activities and patterns of living between sample cases and among samples within cases; 2) Historical Trend Lines, to determine the progression of livelihood changes in relation to benefiting from the agricultural production assets program; 3) Transect Walks, for on spot verification of some of the information provided through the In-Depth Interviews; 4) Problem Tree, in events of need to find cause and effects of particular situations during In-Depth Interviews; and 5) Venn Diagrams, to illustrate interaction of external and internal institutions as viewed by different respondents within sample cases. Information gathered was further aggregated according to different themes, patterns and trends.

### 3.2. Features of a Typical Village in the Study Area

Kalabo and Shangombo Districts were initially one, and were only recently split into two. The districts are quite similar and uniform in terms of cultural practices, ethnicity and marriage patterns. Table 3.1 is a summary of features for the final 5 non-asset benefitting and 5 asset benefitting villages that were selected for the study.

Table 3.1: Summary statistics for final selected study villages

District	Village	No. of HHs	Type of Road to CBD	Cell Phone Signal	Distance (km)			
					To School	From CBD	To Clinic	To AEO
<b>Non-Asset Benefitting Villages</b>								
Kalabo	Mwandi	83	Gravel	Yes	5	15	5	5
Kalabo	Kalwizhi	82	Gravel	Yes	10	10	10	9
Kalabo	Mapungu	105	Sandy	Yes	1.5	25	1.5	1.5
Shangombo	Nakalali	110	Sandy	Poor	59	176	23	8
Shangombo	Soonga	135	Sandy	Poor	44	160	13	13
<b>Asset Benefitting Villages</b>								
Kalabo	Kamonga	100	Gravel	Yes	20	20	1	1
Kalabo	Sikutwi	90	Gravel	Yes	2	30	2	2
Shangombo	Libita II	78	Gravel	Poor	18	161	6	6
Shangombo	Mashombo	125	Sandy	Poor	73	190	11	8
Shangombo	Liyoyelo	129	Gravel	Poor	40	138	10	10

Source: Zambia Ministry of Agriculture, Western Provincial Office, 2013

Note: CBD is central business district and administration center for each district.

HHs = Households.

AEO is agricultural extension office.

Although some villages appear to be in close proximity of central business and administrative centers, the centers themselves are located in outlying areas of the country, far from major economic activities and can only be accessed with a lot of difficult.

A typical household in a village of the study area consisted of a group of individuals who “fed from the same pot and lived under the same roof”. The individuals were commonly related by blood and had a common provision for food and other livelihood essentials. Although a typical

household would consist of several members, it was not uncommon for some households to have only one member. Each household had a head of household who would be either male or female and recognized by the rest of the household members as having the final say in day to day household decision making. Household members would usually occupy a homestead made of a main house, often for the head of the household, a few other houses depending on the level of dependency, a cooking hut and commonly another hut for social gatherings. Pit latrines and granaries were common functional structures.

A group of homesteads make up a village and is overseen by a village headman. In the rural areas of Western Province, there is a dual administration arrangement which is rooted in the village. Under the government political administration, a collection of villages make up a Section, and a number of Sections constitute a Ward. A number of Wards make up a Constituency, and a district may have at least one such, with an elected representative to the National Assembly. Under the traditional Barotse Royal Establishment (BRE), several villages constitute a *Silalo* or ward, and are overseen by an *Induna*, or Senior Headman. A number of *lilalo* (wards) are overseen by a Junior Chief, several of whom in one or more districts are under a Senior Chief who is accountable to the *Litunga*, or Paramount Chief as final traditional authority.

During the study period, the lead person was the *Induna* (Senior Headman), who directed Village Headmen under him to avail the principal researcher all the necessary cooperation.

### **3.3. Participatory Poverty Profiling**

Participatory poverty profiling is a measure that engages those in poverty in order to have a better technical diagnosis of their situation and thus have a better design and implementation of solutions (Robb, 2002). While popular quantitative measures of poverty including the head count and the poverty gap index use income levels to determine the degree to which households or individuals drop below the poverty line on average, participatory measures of poverty on the other hand employ indicators of wellbeing for different dimensions of poverty using local definitions and bring on board the experiences of the poor themselves in disaggregating the different forms of deprivation (Lister, 2004). Participatory Poverty Profiles can help to decompose poverty into its various local dimensions and can thus help in painting a much clearer portrait of constraints faced by the poor (CPRC, 2008). Participatory poverty measures are an effective micro level tool for better identifying the more subjective dimensions of poverty and help to inform quantitative poverty research at macro level. The measures are premised on the belief that people in poverty understand their situation better than outsiders and their views should thus be always taken on board as subjects and not just objects for information extraction. Poverty profiling is commonly used to set out the major facts on poverty and examine the patterns of poverty to see how it varies by geography, community characteristics or household and individual characteristics.

For this study, which is a constructivist inquiry (Guba, 1994), aimed at eliciting social realities through interaction with respondents, participatory poverty profiling was undertaken and used uniquely with the brainstorming tool to enlist the perceptions and experiences of poverty among village members in target districts. Group brainstorming exercises were conducted based on the

perceived needs approach (Mark & Lansby, 1985), which aims at “...identifying minimum acceptable way of life not by reference to observed living standards, but by reference to the views of society as a whole”. Limiting the sample to only villages consisting of 75 or more households, 5 non-asset benefiting villages and another 5 asset benefiting villages were randomly identified. Households in identified villages were stratified based on age group of household heads (male spouses) to satisfy stages of the domestic life cycle. Stratified households were then given numbers based on overall village household-head age distribution proportion. Five households from each stage of the domestic life cycle in each village of the two categories were randomly selected using a table of random numbers. Spouses from the selected households (both asset and non-asset benefiting) converged into small group discussions at local chiefs’ grounds using the brainstorming tool. The brainstorming exercise defined the local meaning of poverty and determined the key areas of perceived poverty. An initial 19 statements of poverty were derived from the small group brainstorming exercises as the first stage (Table 3.2).

Further probing by the researcher was done using group facilitation skills (Justice & Jamieson, 1999) and adult learning psychology principals during plenary sessions in order to harmonize various statements which were then consensually grouped into an initial 7 poverty dimensions as a second stage. The separation of food into carbohydrate and protein components was done at the fourth stage to have the final 8 poverty dimensions, and was based on the local understanding that a complete meal should have a fair share of respectable relish (protein), and that the carbohydrate and protein represented different types of strategies to secure. This assertion seemed to confirm observations in studies on nutrition in Bangladesh that protein-energy malnutrition (PEM) remains one of the most important public health problems afflicting a large proportion of people in under-developed countries (Chodhury, 1995).

Table 3.2: Process of consensual agreement on perceived poverty

<b>Stage One - Plenary Poverty Expressions from Small Group Brainstorming Exercise</b>							
1)If you live on credit, 2)One with no livestock, 3)One who sleeps in make shift house, 4)One who gets nothing for a living, 5)If you don't have own transport, 6)One with no proper house, 7)One who doesn't earn anything, 8)One with no clothes, 9)If your children have not gone to school, 10)If you have no transport to hospital, 11)One with no money, 12)One with no farm implements, 13)One who owns nothing, 14)One with no proper holdings, 15)One without assets, 16)One with no food at home, 17)One with no proper blankets, 18)One who can't support children to school, 19)One with problems in everything,							
<b>Stage Two - Poverty Expressions According to Similarity</b>							
1	2	3	4	5	6	7	
1)If you live on credit, 4)One who gets nothing for a living, 7)One who doesn't earn anything, 11)One with no money, 19)One with problems in everything.	3)One who sleeps in make shift house 6)One with no proper house,	8)One with no clothes, 17)One with no proper blankets	2)One with no livestock, 12)One with no farm implements, 13)One who owns nothing, 14)One with no proper holdings, 15)One without asset	16)One with no food at home	9)If your children have not gone to school, 18)One who can't support children to school	5)If you don't have own transport, 10)If you have no transport to hospital	
<b>Stage Three - Poverty Expressions According to Thematic Areas</b>							
1	2	3	4	5	6	7	
Money	House	Clothes	Assets*	Food	Education	Transport	
<b>Stage Four - Consented Poverty Dimensions</b>							
1	2	3	4	5	6	7	8
Income	Housing	Clothes	Cattle and Farm Implements (Farm Power)	Dietary Carbohydrate	Dietary Protein	Education to Children	Transport to Hospital

Source: Field survey data (2011, 2012)

Note: \*: Cattle were viewed as the most prestigious form of asset and symbol of status.

The 8 poverty dimensions fell into three key categories respectively (1) production, including income and farm power (2) food, including dietary carbohydrate and dietary protein and (3) non-

food including clothes, housing, transport to hospital and education support to children. Each poverty dimension was then characterized by specific indicators of living conditions describing relative deprivation and thus perceived depth of poverty (Table 3.3).

Table 3.3: Participatory poverty profile matrix: perceived poverty dimensions and depth

Perceived Dimension of Poverty	Perceived Depth of Poverty			
	Light ←			→ Serious
Clothes	New from the shop	Second hands	From piecework	From good will
Dietary carbohydrate	Breakfast, lunch, supper and others	Two meals per day	Only one meal per day	Sometimes sleep without a meal in a day
Dietary protein	Big fish breams or meat	Small fish	Exotic vegetables or cow milk	Traditional vegetables
Education to children	Below college	Below 10 <sup>th</sup> grade	Below 8 <sup>th</sup> grade	Below 1 <sup>st</sup> grade
Farm power	Oxen and ploughs	Oxen only	Ploughs only	Manual labor
Housing	Corrugated roof with clay walls	Grass thatched roof with clay walls	Grass thatched roof with grass walls	Improvised
Income	Annual from farm produce and other sources	Seasonal from farm produce	Part from piecework part from farm produce	Always from piecework
Transport to hospital	Motor transport	Bicycle	Ox-cart	Traditional folded bed

Source: Field survey data (2011, 2012)

Note: “piece work” refers to agreed manual labor jobs performed on other peoples’ farms and paid for in cash or in kind (second hand clothes or package of farm produce for food).

The generated poverty profile in Table 3.3 represents a consensual perception by the local people, and it was also in line with fundamental human basic needs. The inclusion of farm power as a poverty dimension appears to reflect the hardship of producing enough food for household food security as well as managing a surplus for sale to realize income for purchase of other domestic essentials. A lack of assets such as livestock and farming tools in rural areas can be instrumental in precluding the poor from taking up economic opportunities, thereby exposing them to increased risk.

The semi-structured questionnaire used to collect data on perceptions and experiences of poverty among non-asset and asset benefiting households was generated based on perceptions captured through participatory poverty profiling.

### **3.4. Rapid Appraisal for Potential Factors Mediating Livelihood Choices and Effective Assets Utilization**

Poor households that can gradually increase their asset stock will walk their way out of poverty. According to Carter and Barret (2006), assets are multidimensional and "...broadly include conventional, privately held productive and financial wealth, as well as social, geographic and market access positions that confer economic advantage...." Carter and Barrett (2006) further note that individuals have defining characteristics that mediate their steady state levels of assets and final equilibrium level of welfare. A rapid appraisal was conducted with local key informants including contact and lead farmers, government extension workers and other managers of asset-based anti-poverty programs to solicit opinions regarding defining characteristics which they perceived to have potential influence on household livelihood choices and effective utilization of granted agricultural production assets. Table 3.4 is a summary of the attributes. A total of 24 defining characteristics were elicited with associated logic. The defining characteristics could be distinguished between those based on household demographics, economics related characteristics, social characteristics, as well as characteristics bordering on culture, including tradition and religion. Among the demographic defining characteristics, number of biological children as well as number of young and adult dependents was associated with family size and composition. Among the economic defining characteristics, if the main household income source

was from off-farm activities, then such a household would not fully commit to on-farm activities. Socially, households which visited or were visited by friends were associated with the benefits of peer interaction through exchange of progressive ideas. Cultural beliefs bordering on taboos were associated with restricted participation in economic activities.

Table 3.4: Household characteristics perceived to potentially influence choices and effective asset utilization

Attribute	Associated Logic
Level of education	Education helps better management
Number of own children	They determine family size and composition
Number of young dependents	
Number of adult dependents	
Main off-farm income source	On-farm activities will be disadvantaged if main livelihood is from off-farm income sources
Main on-farm income source	A person involved in a familiar on-farm activity can be more committed
Period of employment	It could suggest level of pension earnings
Kind of employment	Permanent employment has the benefit of assured pension compared to casual work
How long the visit by friends took	The longer the visits, the higher the chances of exchanging progressive ideas
How long the visits to friends took	
Type of assets once owned by parents	They could help as support to offspring in their early adult life.
Experience in managing cattle	Previous experience in managing an asset gives good lessons
Experience in managing chickens	
How many years one lived in the village	Understanding the local environment gives more flexibility
Whether employed formally before	Once formally employed individuals are more organized.
If one ever lived outside the Western Province	Exposure to other peoples' ways of life can help change attitudes
How long one lived outside the province	Prolonged exposure to other peoples' ways of life can help change attitudes
If one visits friends	Peer interaction helps exchange of good ideas
If one is visited by friends	
Participation in communal activities	It cultivates responsibility into an individual
Village leadership responsibilities	Leaders would want to set good examples
Vying for political elected office	Villagers with political ambitions have no time and lack commitment
Belief in traditional taboos	Traditional and Religious beliefs can hinder commitment and effective management of assets
Belief in religious taboos	

Source: Field survey data (2011, 2012)

### 3.5. Data Analysis and Interpretation

Descriptive statistics using the Statistical Package for Social Sciences (SPSS) were employed to accurately characterize the main features of each stage of the domestic life cycle. Tukey HSD, which is a popular measure of significance in post hoc Analysis of Variance (ANOVA), was used for multiple comparisons and to determine the associations between and within stages of the domestic life cycle. Mean comparisons were done to differentiate the household compositions and sizes, while the Chi-Square test was used to determine existence of possible associations between the poverty dimensionality and the domestic life cycle. The strength of these associations was empirically deduced using Kramer's V statistic.

Descriptive statistics were used to accurately characterize the changes in poverty experiences among households in pre- and post-agricultural assets transfer villages. Hierarchical Cluster Analysis with Ward's method (Rencher & Christensen, 2012), and the Chi-square statistic were employed, using SPSS, to differentiate households moving into lighter poverty experiences based on the attributes elicited from the Rapid Appraisal

Binary Logistic Regression was used to predict the probability of household diversification into given activity portfolios. Factor Analysis was used to determine the structure of poverty dimensions that showed positive changes in poverty experiences.

Inductive reasoning processes (Thorne, 1997) were used to interpret and structure the meanings that were derived from collected data. The main tools used for data interpretation include:

**Constant Comparative Analysis:** this entailed taking one piece of data (one interview, one statement, one theme) and comparing it with all others that may have been similar or different in

order to develop conceptualizations of the possible relations between data sets (Thorne, 1997). Obtained data were then coded to find consistencies and differences.

**Phenomenology (Heuristic Analysis):** this was done in order to generate knowledge about household's possible participation in a number of social protection programs, and what their experiences were like.

The phenomenological analysis uncovered and helped to describe the perceived improvements in livelihood assets if any, and the mechanisms of these improvements. The analysis entailed the researcher immersing himself in data, engaging with data reflectively, and generating a rich description that shaded more light on underlying factors present or absent among agricultural production assets transfer benefiting households.

**Narrative Analysis:** this was used in overlap with the Constant Comparative Analysis and the Phenomenological Analysis with view to gain deeper insight into how individual households who benefitted from the agricultural production assets transfer viewed themselves in comparison with those who did not.

## **CHAPTER 4 - POVERTY PERCEPTIONS AND EXPERIENCES IN ISOLATED AREAS OF ZAMBIA - A DOMESTIC LIFE CYCLE PERSPECTIVE -**

### **4.1. Introduction**

Poverty is the inability to mobilize adequate resources to meet basic requirements at household or individual level. According to the 2010 LCMS, 61% of Zambians lived below the poverty line. Poverty in Zambia is often characterized by the rural prominence. Poverty in rural areas affects 78% of the population, compared with 28% in urban areas (CSO, 2010). The ability by households to persevere in the face of vulnerability depends on a number of factors including their stage in the domestic life cycle (Alejandro, 2001). Understanding poverty according to households based on stages in the domestic life cycle can provide a better understanding of the varying levels of vulnerability among households as they evolve over time. This is because each of the stages in the developmental process of households has got unique defining characteristics that condition their ability to put available resources to effective use and stand in the face of change.

A number of multidimensional measures have been used to gain insight into particular elements of poverty, including the headcount ratio which shows the incidence of poverty and estimates the proportion of total households or population that are poor. One of the weaknesses of the head count ratio is that it could remain constant even when the poor's condition is worsening and they are sliding into more severe poverty (CSO, 2010). Participatory measures of poverty on the other hand employ indicators of wellbeing for different dimensions of poverty using local definitions

and bring on board the experiences of the poor themselves in disaggregating the different forms of deprivation.

Therefore, the objective of this study is to define perceptions and experiences of poverty among non-asset benefitting households according to the different stages of the domestic life cycle using participatory measures.

## **4.2. Methodology**

Limiting the sample to only villages consisting of 75 or more households, 5 non asset benefitting villages were randomly identified. Households in identified villages were stratified based on age group of household heads (male spouses) to satisfy stages of the domestic life cycle. Stratified households were then given numbers based on overall village household-head age distribution proportion. Five households from each stage of the domestic life cycle in each of the 5 villages (hence 150 total respondents) were randomly selected using a table of random numbers. In-depth interviews and a semi-structured questionnaire based on the participatory poverty profile matrix (Table 3.3 of Chapter 3) were administered on the spouses from the selected households. Descriptive statistics using the Statistical Package for Social Sciences (SPSS) were employed to accurately characterize the main features of each stage of the domestic life cycle. Tukey HSD, which is a popular measure of significance in post hoc Analysis of Variance (ANOVA), was used for multiple comparisons and to determine the associations between and within stages of the domestic life cycle. Mean comparisons were done to differentiate the household compositions and sizes, while the Chi-Square test was used to determine existence of possible associations between the poverty dimensionality and the

domestic life cycle. The strength of these associations was empirically deduced using Kramer's V statistic.

## 4.3. Results

### 4.3.1. Demographic Characteristics of the Domestic Life Cycle

As shown in Table 4.1, the intermediate stage has the largest number of own children (M=4.68, S.D=1.61). It also has the least number of dependents (others besides biological children) (M=0.56, S.D=0.91) and the dependents are the youngest (M=2.14, S.D=3.34). On the other hand, the dispersion stage has the largest number of dependents (M=2.72, S.D=1.73). It also has the oldest own children (M=11.7, S.D=8.51) and oldest dependents (M=9.88, S.D=6.84).

Table 4.1: Demographic characteristics of households by domestic life cycle stages

Demographic Characteristics		Domestic Life Cycle Stage		
		Reproductive	Intermediate	Dispersion
No. of own children	Mean	3.04 <sup>a</sup>	4.68	3.4 <sup>a</sup>
	S.D	1.51	1.61	2.87
No. of dependents	Mean	0.96 <sup>a</sup>	0.56 <sup>a</sup>	2.72
	S.D	1.19	0.91	1.73
Age of own children	Mean	7.3 <sup>a</sup>	8.5 <sup>a</sup>	11.7
	S.D	4.84	3.25	8.51
Age of dependents	Mean	4.378 <sup>a</sup>	2.14 <sup>a</sup>	9.88
	S.D	5.22	3.34	6.84
Age difference between spouses	Mean	4.24	7.68	14.12
	S.D	2.58	3.86	5.72

Source: Field survey data (2011, 2012)

Note: S.D=Standard Deviation

a: Means in the same row with the same letter are not significantly different at 95 % confidence level (P<0.05).

As can be seen in Table 4.1, the number of own children in the reproductive stage is significantly different from the intermediate stage ( $p < 0.05$ ), but not significantly different from the dispersion stage ( $p > 0.05$ ). The number of own children in the intermediate stage is also significantly different from the dispersion stage ( $p < 0.05$ ). The reduced number of children in the dispersion stage to the level of the reproductive stage is a confirmation that own children graduate out of parents' care during the dispersion stage. However, the higher number of dependents in the dispersion stage ( $M=2.72$ ) effectively offsets the number of graduated own children, thus making the dispersion stage represent the biggest family size with the oldest children and dependents. There is also a noted increase in the average age difference between spouses from the reproductive stage ( $M=4.24$ ,  $S.D=2.58$ ) through the dispersion stage ( $M=14.12$ ,  $S.D=5.72$ ), and the differences in spousal age are significantly different ( $p < 0.05$ ) for all domestic life cycle stages, suggesting that as males become older, they increasingly marry younger females. This may be related to the marginal decline in the number of own children from the intermediate to the dispersion stages as younger offspring are born into the dispersion stage.

The high rates of fertility observed in stages of the domestic life cycle may not simply be viewed as a cause of poverty but also a consequence of poverty. While small families may be desirable from the calculus of public good, having a large family is a rational strategy for survival (Hulme & Turner, 1990) because for many poor families, an additional child is not only an inherent source of satisfaction and pleasure but also has economic value. Within a few years, a child can contribute to family welfare through, for example, herding cattle or fetching firewood. In the long run, parents with large families have a greater likelihood of support in old age and this makes households less vulnerable.

#### 4.3.2. Association between Dimensions of Poverty and Domestic Life Cycle

Household capacity to adapt and ward off vulnerability can vary according to its stage in the domestic life cycle (Alejandro, 2001). Understanding the changing household experiences of poverty according to stages in the domestic life cycle can provide a better understanding of the varying levels of vulnerability among households as they evolve over time. This is because each of the stages in the developmental process of households has got unique defining characteristics that condition their ability to put availed resources to effective use and stand in the face of change. As shown in Table 4.2, there was a significant association between stages in the domestic life cycle and how households acquire clothes (that is sources of clothes) and their means of farm power ( $\chi^2$  (6)=69.1 and 25.93 respectively,  $p < 0.001$ ). Further, there was a significant association between stages in the domestic life cycle and the protein and carbohydrate levels in their diet ( $\chi^2$  (6) = 20.6 and 14.7 respectively,  $p < 0.05$ ). A very slight association was seen between stages in the domestic life cycle and income sources ( $\chi^2$  (6) = 12.94,  $p < 0.05$ ).

Table 4.2: Association of domestic life cycle with poverty dimensions

<b>Dimension of Poverty</b>	<b><math>\chi^2</math></b>	<b>Confidence Level</b>	<b>Crammer's V</b>
Clothes	69.1	$p < 0.01$	0.48
Dietary Carbohydrate	14.72	$p < 0.05$	0.313
Dietary Protein	20.63	$p < 0.05$	0.262
Education to children	5.37	$p > 0.05$	0.195
Farm Power	25.93	$p < 0.01$	0.294
Housing	11.13	$p > 0.05$	0.193
Income	12.94	$p < 0.05$	0.294
Transport to hospital	5.35	$p > 0.05$	0.211

Source: Field survey data (2011, 2012)

Note: Degrees of freedom = 6  
 $\chi^2$  = Chi-square statistic

A significant Pearson's Chi-square test implies that there is more likelihood that the sources of farm power, clothes, carbohydrate level, protein level and income sources would change as individuals go through the life cycle stages. There was, however, no significant association between stages in the domestic life cycle and levels of housing, education to children and transport to hospital, implying that the variables were unlikely to change even as individuals go through the life cycle stages.

Cramer's V statistic is a popular measure of the strength of association between variables with more than two categories (Field, 2005) and reaches its maximum value of 1 when the association is the strongest. The statistic indicated the strongest association was between clothes and domestic life cycle ( $V=0.480$ ,  $p<0.01$ ), followed by the association respectively between domestic life cycle and dietary carbohydrate ( $V=0.313$ ,  $p<0.05$ ) and farm power ( $V=0.292$ ,  $p<0.001$ ). Although the association between income and domestic life cycle was only slightly significant, the strength of association ( $V=0.294$ ,  $p<0.05$ ) was greater than that between domestic life cycle and dietary protein ( $V=0.262$ ,  $p<0.05$ ).

#### 4.3.3. Inter and Intra-Household Differences in Poverty Experiences

As shown in Table 4.3, the overall cumulative percentage (sum for male and female spouse in a given life cycle stage) for the reproductive stage was seen to top in the experienced poverty of dietary carbohydrate, dietary protein and income, while the intermediate stage topped in the experienced poverty of clothes, housing, farm power and transport to hospital.

Table 4.3: Comparison of poverty experiences between spouses

Dimension of Poverty	Domestic Life Cycle Stage						Average (%)** (Rank)
	Reproductive (%)		Intermediate (%)		Dispersion (%)		
	Male	Female	Male	Female	Male	Female	
Clothes	12*	36	8	52	16	32	26(5)
Dietary Carbohydrate	92	96	88	80	76	72	84(2)
Dietary Protein	92	96	88	80	76	52	81(3)
Education to Children	28	12	4	28	16	8	16(7)
Farm Power	88	84	96	96	100	72	89(1)
Housing	24	12	16	32	8	16	18(6)
Income	84	80	56	68	60	52	67(4)
Transport to Hospital	12	8	20	8	4	0	9(8)

Source: Field survey data (2011, 2012)

Note: \*: 12% of male spouses under the reproductive stage experienced clothes poverty.

\*\* : Sum of the % score for male and female spouse per poverty dimension divided by six categories of spouses.

However, there were some differences in the experienced poverty between spouses within the same household in the different stages of domestic life cycle. Less than 30% of male spouses in each stage of the domestic life cycle mentioned clothes as experienced poverty but more than 30% of female spouses in all stages of the domestic life cycle alluded to a serious lack of clothes, with females in the intermediate stage being the most affected (52%). This trend coincides with the fact shown in Table 4.1 that the intermediate stage has a higher number of biological children (M=4.7, S.D=1.51) than those in the reproductive and dispersion stages. The felt deprivation of dietary protein was much higher among male spouses (76%) in the dispersion stage compared to female spouses (52%). A more elaborate picture involving only a single poverty dimension (income) was seen in Table 4.4 which showed the differences in income poverty experienced between spouses within the same households. Barret and Carter (2006) observe that income (or household expenditure) data over a given time period is the most commonly used basis for poverty measures. The use of income as a measure of wellbeing is premised on the belief that

expenditure on goods and services is dependent on the sum total of income possessed by an individual at any one time. Households commonly use income to meet their daily basic needs such as on nutrition, shelter, clothes, education support to children as well as health (CSO, 2010).

According to the participatory poverty profiling, the availability of income throughout the year from different sources was the highest indicator of living conditions, followed by the realization of income once a year after marketing seasonal crops. Accordingly, supplementing one's income from crop sales with some piecework was viewed as dehumanizing, although not as bad as depending entirely on hiring oneself out to other people's households in order to obtain cash. Table 4.4 showed that male spouses in all stages of the domestic life cycle have the best sources of income which they realize all year round from crop sales and other sources.

Table 4.4: Differences in income poverty experienced between spouses within the same households

Depth of Income Poverty	Reproductive Stage		Intermediate Stage		Dispersion Stage	
	Male	Female	Male	Female	Male	Female
Annual from farm produce and other sources (%)	38	16	44	16	32	4
Seasonal from farm produce (%)	12	26	16	24	12	14
Part from piecework part from farm produce (%)	42	54	24	40	24	60
Always from piecework (%)	8	4	16	20	32	22

Source: Field survey data (2011, 2012)

Note: % denotes proportions of respondents receiving income through indicated source.

Female spouses on the other hand, who are forced to do piecework in order to supplement income from crop sales, far outnumber their male spouses. Lack of secure and stable income sources among females at household level is one of the factors responsible for their continued dependence on male spouses, and thus highly vulnerable to poverty.

#### 4.3.4. Poverty Depth and Domestic Life Cycle Stages

According to Table 4.2 above, clothes and dietary carbohydrate poverty had the strongest association with the life cycle stages. The two dimensions when looked at closer as in Table 4.5 pointed to existence of variations in experienced depths of poverty between domestic life cycle stages.

Table 4.5: Variation in depths of experienced poverty between domestic life cycle stages

<b>Depth of Poverty</b>	<b>Reproductive Stage (%)</b>	<b>Intermediate Stage (%)</b>	<b>Dispersion Stage (%)</b>
<b>Clothes Poverty</b>			
New from the shop	19	26	3
Second hand	61	52	30
From piecework**	16	18	30
From good will**	4	4	37
<b>Dietary Carbohydrate Poverty</b>			
Breakfast, lunch, supper and others	19	12	8
Two meals per day	63	48	52
Only one meal per day	18	36	31
Sometimes sleep without a meal in a day	0	4	9

Source: Field survey data (2011, 2012)

Note: % denotes proportion of respondents acquiring clothes or feeding as per indicated level.

\*\* : Clothes from “piece work” and “good will” are all second hand.

While more than half of respondents in both the reproductive and intermediate stages could afford to buy second hand clothes, up to 67% of respondents in the dispersion stage were able to obtain clothes either through payment in kind after doing piecework or through good will as gifts. It can also be seen from Table 4.5 that the dispersion stage had the least number of respondents who were able to buy new clothes from formal shops (3%) compared to the reproductive and intermediate stages (19% and 26% respectively). In terms of dietary carbohydrate, the reproductive stage topped in the number of households able to have 3 or more meals, and no

respondent confessed to ever going a day without a cooked starch meal. However, it was the dispersion stage which had the least number of people who could afford three cooked starch meals per day (8%), in addition to having the bigger number of those who often go a day without a meal (9%). This state of affairs may be a pointer to how poverty particularly affects the elderly in the study villages.

## **4.4. Discussion**

### **4.4.1. Dispersion Life Cycle Stage and Inward Migration**

The higher number of older dependents and a reduced number of own children in the dispersion stage (Table 4.1) seem to suggest that while own children graduate out of the parents' household, there is some inward migration of able bodied kinsmen. The age of the inward migrants could be crucial in offsetting the domestic labor vacuum as parents become elderly. However, the increase in the number of dependents which increases the family size also implies an increase in requirements for basic needs in the household which could add further stress on available resources. Related to the dispersion stage having the largest family size is the observed flow of relatively younger female spouses. With an average age difference of nearly 15 years between spouses, younger females could be more energetic and thus critical for farm labor, but also carry a high fertility potential which could introduce even younger offspring into a family headed by an elderly male spouse who could soon die and leave them without sufficient paternal support leading to childhood poverty. According to the 2010 LCMS, the Western Province of Zambia has the highest incidence of female headed households, suggesting broken marriages which may explain why males had a chance to remarry much younger female spouses. High levels of

childhood poverty have a negative impact on children's future life chances and could affect child development, subsequent educational outcomes, child health as well as behavior (Lister, 2004).

#### 4.4.2. Felt Needs, Domestic Life Cycle and the Differential Experience of Poverty

The absence of association between housing and the domestic life cycle (Table 4.2) could be attributed to the common pattern of housing which wholly depends on naturally and freely available tree poles, grass and mud soil which all can afford. On the other hand, the lack of association between the domestic life cycle and the poverties of education support and transport to hospital could be explained partly by the Government policy of free primary education and healthcare. The slight association between the domestic life cycle and income could be attributed to the observed autarkic household economies which border on domestic self-sufficiency. Limited economic opportunities as a result of inaccessibility and the isolated nature of the study villages could also contribute as people are involved in nearly similar economic activities. The significant association between the domestic life cycle and perceived poverty of farm power, clothes and dietary carbohydrate points to the possible changes in production and consumption patterns as the household evolves. It suggests that particular poverty dimensions are experienced differently depending on the stage of the domestic life cycle, and further that age of the spouses within the household could be a determinant of felt needs.

#### 4.4.3. Gender, Domestic Life Cycle Stage and the Experience of Poverty

As shown in Table 4.3, the reproductive stage is seen to top in the experience of poverty in dietary carbohydrate, dietary protein and income which are more consumption based, while the

intermediate stage tops in the experience of poverty in clothes, housing and transport to hospital which are more welfare based. The prevalence of food (dietary carbohydrate and protein) and income poverty in the reproductive stage coincides with onset of parenthood and presents a possible risk to the proper development of children. This is because exposure to poverty at younger age can have a negative impact on children's future life chances and could affect their development, subsequent educational outcomes, health, as well as behavior (Lister, 2004). According to Table 4.3, experienced poverty differs within the same gender in different stages of the domestic life cycle: female spouses in the intermediate stage felt the poverty of inadequate clothing, poor shelter and insufficient education support to children more than those in the intermediate and dispersion stages. This could be related to the fact that the intermediate stage represents the largest nuclear family size, and own children's demands for separate housing, adequate clothing and school requirements may far exceed those in the reproductive and dispersion stages where children respectively are still young or already grown to fend for themselves. There are also differences in experienced poverty between spouses within the same household. This suggests unequal distribution of consumption within families. It could mean that one spouse could experience poverty more intensely than the other. The differences in experienced poverty between spouses of the same household contradicts the orthodox model of a household as an egalitarian decision making unit within which resources are shared equally (Lister, 2004). It points to the fact that poverty is ultimately experienced by individuals. While Table 4.3 showed disparities in experienced poverty within spouses in the same household, Table 4.4 suggested that the experienced poverty disparities between spouses would actually favor the male spouse. The males, according to Table 4.4, had the best income sources compared to females. This seems to confirm the gendered view that female spouses generally experience

greater financial deprivation than male spouses (Vogler, 1994). This may be a result of structural factors associated with women's economic dependence and male power. It nevertheless supports the observation that female spouses with no income under their own control to meet their needs, are vulnerable to poverty because they are dependent on the discretion of their husbands and ill prepared to stand on their own in the event of divorce.

#### 4.4.4. Poverty Depth and Old Age

Although poverty among stages of the domestic life cycle is similarly perceived, its experienced dimensionality and depth vary. As shown in Table 4.5, the dispersion stage appeared to be highly vulnerable to food and clothes poverty with the highest likelihood of a household going an entire day without a carbohydrate meal, and the highest incidence of dependency on good will or piece work for clothing. With diminished strength through old age, it remains doubtful how effective doing piecework for payment in kind may be. This leaves good will as the most logical opportunity for clothing among the elderly. A distinguishing feature of poverty in old age is that the escape is more difficult (Lister, 2004), especially for the elderly and weakest that cannot do any piecework to earn cash for food or get clothes as payment in kind.

## 4.5. Conclusion

The domestic life cycle, which should be characterized by family expansion, maturity and dispersion, is distorted by poverty due to the inward migration of kinsmen, and the prevalence of much younger female spouses in the dispersion stage.

While perceptions of poverty in the three domestic life cycle stages are similar, experiences of poverty differ between the domestic life cycle stages, and the different experiences are also reflected at the household level, where the superior male spouse income sources relative to the female spouse may further point to unequal household consumption.

The reproductive stage experiences the poverty of dietary carbohydrate, dietary protein and income sources, which are more consumption based, while the intermediate stage experiences mainly the poverty of clothes, housing and transport to hospital, which are more welfare based.

Among the 8 poverty dimensions, dietary carbohydrate and clothes poverty have the strongest association with the domestic life cycle stages and their extreme experiences are most noted in the dispersion stage which represents old age.

## **CHAPTER 5 - POVERTY UPWARD MOBILITY IN ISOLATED AREAS OF ZAMBIA: A DOMESTIC LIFE CYCLE PERSPECTIVE**

### **5.1. Introduction**

In Zambia, poverty mitigation programs based on agricultural production assets transfer constitute social protection and have been implemented to help the poor transform their social economic relationships. While assets are multidimensional, direct transfer of agricultural production assets to the poor represents an organised thrust that should significantly improve the poor's productivity levels. Transfer of agricultural production assets is a more suitable form of social protection for developing countries like Zambia where the majority of the population is rural based and dependent on subsistence farming for a livelihood. According to the 2008 Chronic Poverty Report, social protection, particularly social support such as through agricultural production assets transfer, can help poor people forestall asset depletion and thus have a chance to build an asset base that can better their wellbeing through improved productivity. Poverty mitigation programs based on the income paradigm have not significantly changed pre-transfer poverty because they are designed to help maintain people by supporting consumption (Danziger & Plotnick, 1986). Social protection interventions using assets transfer, on the other hand, can lead to positive social economic outcomes because the assets are more often than not used to create opportunities, and thus increase well-being in ways that income cannot (Shobe & Page-Adams, 2001).

A household's capacity to stand in the face of poverty varies with a number of factors including its stage in the domestic life cycle (Alejandro, 2001). Understanding poverty according to stages in the domestic life cycle can provide a better insight into the dynamic responses to development interventions among households as they evolve over time. This is because each of the stages in the developmental process of households has got unique defining characteristics that condition their ability to put available resources to effective use. Further, households are themselves not egalitarian units with equitable distribution of resources, and poverty experiences between spouses can differ according to the domestic life cycle stage.

Therefore, the objective of this chapter is to clarify changes in households' experiences of poverty due to agricultural production assets transfer within the domestic life cycle stages.

## **5.2. Methodology**

Limiting the sample to only villages consisting of 75 or more households, 5 asset benefiting villages and another 5 non-asset benefiting villages were randomly identified in Kalabo and Shangombo Districts. Households in identified villages were stratified based on age group of household heads (male spouses) to satisfy stages of the domestic life cycle. Stratified households were then given numbers based on overall village household-head age distribution proportion. Five households from each stage of the domestic life cycle in each of the 5 villages in the two village categories were randomly selected using a table of random numbers – total 300 respondents. Shortlisted respondents indicated which level on the participatory poverty profile (Table 3.3, Chapter 3) they experienced poverty under the different dimensions with view to compare the experiences between agricultural production assets benefiting and non-benefiting

households. In-depth interviews were used in combination with constant comparative, narrative and phenomenological analysis to seek further clarification on experienced poverty. Descriptive statistics with SPSS were used to accurately characterize the differences in poverty experiences among households in the pre- and post-agricultural production assets transfer villages, with particular attention to trends among households in lighter and worse poverty conditions.

## **5.3. Results and Discussion**

### **5.3.1. The Domestic Life Cycle Stages and Varied Upward Poverty Mobility**

Positive change in poverty experiences can be said to have occurred if there is an upward mobility of the poor into lighter levels of experienced poverty or an outward mobility (reduction) of the poor from deeper levels of experienced poverty. Since assets are multidimensional and individuals have defining characteristics which may influence their effective utilization, the changes in poverty experiences can at best be understood as resulting from the interaction between the poverty dimensions and individual characteristics, with the brooder chickens and animal draft power packages which are availed through agricultural production assets transfer.

Table 5.1 is a comparison of the proportion of households in the most desired (lighter) level of experienced poverty between non-asset transfer (pre-transfer) villages and asset transfer (post-transfer) villages:

Table 5.1: Household migration into lighter poverty experience

	Domestic Life Cycle Stage	Households Experiencing Lighter Poverty (%)							
		Clothes	Dietary Carbohydrate	Dietary Protein	Education to Children	Farm Power	Housing	Income	Transport to Hospital
Pre Transfer	Reproductive	20*	14	8	10	30	8	38	0
	Intermediate	24	16	8	20	36	12	44	0
	Dispersion	0	8	0	12	26	16	32	0
Post Transfer	Reproductive	60*	48	10	28	46	32	44	0
	Intermediate	36	44	8	40	50	32	58	0
	Dispersion	16	16	8	24	36	14	52	4
Percent Points Difference	Reproductive	40**	34	2	18	16	24	6	0
	Intermediate	12	28	0	20	14	20	14	0
	Dispersion	16	8	8	12	10	-2	20	4
Average Difference		23***	23	3	17	13	14	13	1
Rank		1****	1	5	2	4	3	4	6

Source: Field survey data (2011, 2012)

Note: \*: % of reproductive stage households in pre-transfer villages experiencing the poverty of clothes

\*\* : Percent points difference in reproductive stage households between pre and post transfer experiences in the lighter poverty of clothes

\*\*\*: percent points average difference in clothes lighter poverty experience across life cycle stages.

\*\*\*\*: Top ranked percent points average difference in clothes lighter poverty experience across life cycle stages.

According to Table 5.1, at a glance, limiting to average differences, there were overall increments in the number of households that migrated into lighter poverty levels (upward mobility) in asset transfer villages. The overall increments in the number of households that migrated into lighter poverty levels (upward mobility) in asset transfer villages suggests that agricultural assets have a positive impact in changing experienced poverty for the better. However, the reflected changes in experienced poverty were not shared equally between the domestic life cycle stages, with some stages showing larger differences in some poverty dimensions than others, suggesting that the upward mobility steps out of poverty did not spontaneously cover all poverty dimensions at the same time when agricultural production assets were availed. Clothes, dietary carbohydrate and education support to children showed the largest increments with more than 15 points in the percent of households experiencing lighter poverty. These were followed by positive changes in housing, income and farm power respectively. Further, the increments were not uniformly distributed. Carbohydrate poverty upward mobility was more pronounced in the reproductive life cycle stage (40% points), while income poverty upward mobility was more noticeable among the dispersion stage (20% points), suggesting that

different domestic life cycle stages would move up different experienced poverty dimensions at a time. It also suggests that the agricultural production assets provided could have different impacts on different poverty dimensions. The positive change in clothes poverty was mainly due to that at the reproductive stage (20% to 60% points), while that for dietary carbohydrate could be attributed mainly to the reproductive and intermediate stages with little contribution from the dispersion stage. The latter pattern appears to be consistent over the positive changes in housing and farm power. The positive change in income poverty experiences could be attributed mostly to that at the dispersion stage (32% to 52% points). On the other hand, the smallest increase was in the poverty of transport to hospital (1% point) followed by dietary protein (3% points). The increases in proportion of households graduating into the lighter poverty level appears to reduce in accordance with the domestic life cycle stage with regards to dietary carbohydrate, farm power and housing, implying that the dispersion stage showed the least upward mobility. The opposite is true for income poverty.

Table 5.2 is a comparison of the proportion of households in the worst levels of experienced poverty between non-asset transfer (pre-transfer) villages and asset transfer (post-transfer) villages.

Table 5.2: Household migration out of worst poverty experience

	Domestic Life Cycle Stage	Households Experiencing Worst Poverty (%)							
		Clothes	Dietary Carbohydrate	Dietary Protein	Education to Children	Farm Power	Housing	Income	Transport to Hospital
Pre Transfer	Reproductive	0	0	64	20	30	0	8	0
	Intermediate	4	4	64	20	52	0	16	16
	Dispersion	56*	14	72	10	38	4	32	10
Post Transfer	Reproductive	0	0	28	0	30	0	12	2
	Intermediate	4	0	26	6	16	0	10	0
	Dispersion	20*	0	54	12	30	0	12	32
Percent Points Difference	Reproductive	0	0	-36	-20	0	0	4	2
	Intermediate	0	-4	-38	-14	-36	0	-6	-16
	Dispersion	-36**	-14	-18	2	-8	-4	-20	22
Average Difference		-12***	-6	-31	-11	-15	-1	-7	3
Rank		3	6	1****	4	2	8	5	7

Source: Field survey data (2011, 2012)

Note: \*: % of dispersion stage households in pre and post transfer villages respectively experiencing the worst poverty of clothes

\*\* : Percent points difference in dispersion stage households between pre and post agricultural production assets transfer experiences of the worst poverty of clothes

\*\*\*: percent points average difference in clothes worst poverty experience across life cycle stages.

\*\*\*\*: Top ranked percent points average difference in clothes worst poverty experience across life cycle stages.

According to Table 5.2, there were overall reductions in the number of households that were experiencing the worst poverty in asset transfer villages, suggesting that agricultural production assets had a positive impact in changing experienced poverty for the better. However, the reflected reductions in the number of households experiencing the worst poverty were not shared equally between the domestic life cycle stages, with some stages showing larger differences in some poverty dimensions than others, suggesting that the improvements in poverty experiences did not spontaneously cover all poverty dimensions at the same time when agricultural production assets were availed. Overall, the largest reductions were in the poverty of dietary protein (-31% points average difference), followed by farm power, clothes and education support to children with respectively -15%, -12% and -11% points average difference. The least reductions were in the experiences of the poverty of housing (-1% point average difference) followed by dietary carbohydrate (-6% points average difference). Like in the movement into lighter poverty in Table 5.1, the reductions were not uniformly distributed: the reductions in the number of households experiencing dietary protein poverty were mainly from the intermediate

life cycle stage (38%) and reproductive life cycle stage (36%), with only 18% contribution from the dispersion life cycle stage. In the same vain, reductions in the number of households experiencing the worst poverty of clothes were wholly from the dispersion life cycle stage (38%) with no contribution from both the reproductive and intermediate life cycle stages.

According to observations in the study villages, households living at the top of the poverty profile with lighter poverty experiences, although still in poverty, constituted a village elite and were commonly referred to as the “rich poor”, while those in the worst poverty at the bottom were the poorest. A comparison between the two categories of agricultural production assets beneficiaries showed that when given the same assets, the domestic life cycle stages and dimensions of poverty graduating into lighter poverty experiences were different from the domestic life cycle stages and dimensions of poverty graduating out of worst poverty experiences: at the top of the profile (lighter poverty), increases in the number of households showing improvements in clothes poverty experiences were most notable among the reproductive life cycle stage (40%) who were enabled to purchase new clothes from retail outlets; at the bottom of the profile, reductions in numbers of households dependent on gifts as a source of clothing were most notable among the dispersion life cycle stage (56%). In the case of dietary carbohydrate, the reproductive and intermediate life cycle stages notably graduated into three meals or more per day (lighter poverty – respectively 34% and 28%), while at the bottom of the profile the dispersion life cycle stage showed notable reductions in number of households going at least a day without a meal (–36%). Figure 5.1 is a tabular representation of the prioritized dimensions of poverty between households moving into lighter poverty experience at the top of the poverty profile and those moving out of worst poverty experience at the bottom of the poverty profile:

Movement into Lighter Poverty Experience		Comparative Position of Poverty Dimensions	Movement from the Worst Poverty Experience	
Dimension of Poverty	Rank		Rank	Dimension of Poverty
Clothes	1		1	Dietary Protein
Dietary Carbohydrate	1		2	Farm Power
Education	3		3	Clothes
Housing	4		4	Education
Farm Power	5		5	Income
Income	6		6	Dietary Carbohydrate
Dietary Protein	7		7	Transport to Hospital
Transport to Hospital	8		8	Housing

Figure 5.1: Tabular representation of prioritized poverty dimensions.

Source: Field survey data (2011, 2012)

According to Figure 5.1, households in worst poverty took advantage of transferred agricultural production assets to achieve improvements in their dietary protein conditions. This essentially means moving away from naturally occurring mainly rain-fed indigenous vegetables to more exotic vegetables and cow milk based diets. A similar improvement in farm power among those in the worst poverty implies a movement towards use of animal draft power away from manual labor utilization.

The unequal sharing and non-uniform distribution of the changes in experienced poverty both by domestic life cycle stages and by poverty dimensions suggests that the effects and reactions to agricultural production assets transfer may be different depending on the level of poverty experienced by different domestic life cycle stages. It alludes to the agency of individual household beneficiaries to choose only particular poverty dimensions for allocation of scarce resources at a time. This finding is related to similar findings from studies on non-farm incomes for poverty alleviation among small households in rural Bangladesh where Malek and Usami (2010) noted that overall non-farm income significantly mattered for reducing income poverty

but could be still low to realize reduced education poverty. According to Alejandro (2000), household capacity to adapt and ward off vulnerability can vary depending on the domestic life cycle stage. This is because vulnerability levels vary among households as they evolve over time, and each of the stages in the developmental process of households has got unique defining characteristics that condition their ability to put available resources to effective use.

The differences in life cycle stages with regards to dimensions of poverty responding most to agricultural production assets transfer, and the inability of households to exhibit a tandem upward mobility pattern across all poverty dimensions alludes to the particular social arrangements within the respective domestic life cycle stages that influence their ability to utilize availed assets. Further, while the transferred agricultural production assets would improve on the individual household asset stock, the asset level may not be sufficient enough to catapult the household completely out of poverty. This observation appears to confirm Barret and Carter's (2006) positing that there exists a dynamic asset threshold that can help discern households that have a current asset status which forecasts improved future welfare from those whose current asset status forecasts a level of wellbeing below the poverty line.

### 5.3.2. The Domestic Life Cycle Stages and Post Transfer Intra-Household Poverty Experiences

Households are themselves not egalitarian units with equitable distribution of resources, and poverty experiences between spouses can differ depending on the domestic life cycle stage. A comparison of poverty experiences between spouses among asset beneficiary households was made. Table 5.3 is a percent comparison of post transfer experienced lighter poverty between male and female spouses in the same household.

Table 5.3: Comparison of post transfer lighter poverty experience between spouses

Perceived Dimension of Poverty	Reproductive (%)			Intermediate (%)			Dispersion (%)		
	M	F	Dif	M	F	Dif	M	F	Dif
Income	44	38	6	58	44	14	52	16	36
Housing	32	24	8	32	22	10	14	8	6
Dietary Carbohydrate	48	38	10	44	44	0	16	10	6
Dietary Protein	10	2	8	8	4	4	8	6	2
Farm Power	46	40	6	50	52	-2	36	24	12
Education to Children	28	10	18	40	28	12	24	14	10
Clothes	60	46	14	36	36	0	16	10	6
Transport to Hospital	0	2	-2	0	0	0	4	6	-2
Total Score			68			38			76

Source: Field survey data (2011, 2012)

Note: M=Male Spouse; F=Female Spouse

Dif=Difference in number between male and female spouses.

According to Table 5.3, and at a glance between spouses, more males than females experienced lighter poverty in all the dimensions except for transport to hospital across the life cycle stages and farm power in the intermediate life cycle stage. Among the reproductive life cycle stage, the largest difference in experienced poverty was in the support to children's education (18% points) followed by the poverty of clothes (14% points) and dietary carbohydrate (10% points) respectively. Among the intermediate life cycle stage, the largest difference in experienced poverty between spouses was respectively in income (14% points), support to children's education (12% points) and housing (10% points). Among the dispersion life cycle stage, spouses had the largest difference in the experienced poverty of income (36% points) followed respectively by farm power and support to children's education. Across the 8 poverty dimensions, the largest difference between spouses in the experience of lighter poverty was in the dispersion life cycle stage (76% points) and the least difference was in the intermediate life cycle stage (38% points).

The experiences of lighter poverty across the 8 poverty dimensions were not felt the same between spouses and were not uniformly distributed. The higher number of male spouses

expressing lighter poverty compared to females in the same household suggests differences in perceptions with the female spouses demonstrating a more pessimistic view. It also alludes to possible disparities in access especially to household consumables like food and clothes particularly in the reproductive and dispersion life cycle stages. In terms of income the disparities also confirm the findings in Table 4.4 (Chapter 4) that male spouses in all stages of the domestic life cycle have the best sources of income which they realize all year round from crop sales and other sources. For housing, the disparities may reflect the concern by females as mothers who have to worry about the increased need for shelter space as their offspring grow. This may also be the case for children's support to school. In most rural Zambian set ups, access to food on the table is often hierarchical in favor of the male spouse and this may explain the disparity in food poverty experience such as dietary carbohydrate and protein. In terms of farm power, studies in Zambia indicate that women are the main source of farm labor (CSO, 2010). According to Table 5.2 above, when households were assisted with agricultural production assets, one of the biggest differences in positive experienced poverty was in farm power among the intermediate life cycle stage (36% points). This large change appears to favor the female spouses as shown in Table 5.3 where more females indicate to experience the lighter poverty of farm power. Although there were disparities in the experienced lighter poverty of transport to hospital, they were marginal in the reproductive and dispersion life cycle stages and completely disappeared in the intermediate stage. Considering the least score in experienced poverty for the intermediate life cycle stage, the absence of disparities in the hospital transport poverty experience may be attributed to more equitable access to domestic services among spouses. Table 5.4 is a percent comparison of post transfer experienced worse poverty between male and female spouses in the same household.

Table 5.4: Comparison of post transfer worse poverty experience between spouses

Perceived Dimension of Poverty	Reproductive (%)			Intermediate (%)			Dispersion (%)		
	M	F	Dif	M	F	Dif	M	F	Dif
Income	12	20	-8	10	0	10	12	32	-20
Housing	0	0	0	0	0	0	0	24	-24
Dietary Carbohydrate	0	0	0	0	0	0	0	26	-26
Dietary Protein	28	50	-22	26	36	-10	54	60	-6
Farm Power	30	44	-14	16	18	-2	30	36	-6
Education to Children	0	2	-2	6	6	0	12	6	6
Clothes	0	10	-10	4	6	-2	20	26	-6
Transport to Hospital	2	0	2	0	0	0	32	2	30
Total Score			-54			-4			-52

Source: Field survey data (2011, 2012)

Note: M=Male Spouse; F=Female Spouse

Dif=Difference in number between male and female spouses.

According to Table 5.4, and at a glance between spouses, more females than males experienced worse poverty in all the dimensions except for income poverty in the intermediate life cycle stage and transport to hospital in the dispersion life cycle stage. Further, among the reproductive and intermediate life cycle stage spouses, the worst poverty of housing and dietary carbohydrate was not experienced. Among the reproductive life cycle stage, the largest difference in experienced worse poverty was in dietary protein (22% points) followed by farm power poverty (14% points) and income poverty (8% points) respectively. In the intermediate life cycle stage, the largest difference in experienced worse poverty between spouses was in dietary protein (10% points), followed by marginal differences in farm power poverty and clothes poverty (2% points each). In the dispersion life cycle stage, more male spouses experienced the worst poverty in transport to hospital than females (30% points difference). For the remaining poverty dimensions more female spouses experienced the worst poverty and the largest difference was in the experienced worst poverty of dietary carbohydrate (26% points) followed respectively by housing poverty (24% points) and income poverty (20% points). Across the 8 poverty dimensions, the largest difference between spouses in the experience of worst poverty was in the reproductive life cycle

stage (54% points) and the least difference was among the intermediate life cycle stage (4% points)

According to Table 5.4, like in the experiences of lighter poverty, worst poverty experience across the 8 poverty dimensions was not felt the same between spouses and was not uniformly distributed. The higher number of female spouses expressing worst poverty experience compared to males in the same household suggests that male spouses may be either more optimistic about their current well-being than females, or they are positively favored by the domestic status quo even in times of hardships. Table 5.4 suggests that among the worst affected by poverty, improvements in housing and dietary carbohydrate are equally appreciated between the spouses among the reproductive and intermediate life cycle stages. This is equally the case for the poverty of support to children's education and transport to hospital among the intermediate life cycle stage spouses. Among the households with the worst poverty experiences, lack of income appeared to be more experienced by male spouses in the intermediate life cycle stage. With no female spouses expressing dissatisfaction with the poverty dimension, the higher number of male spouses experiencing perceived lack of income could be related to the fact that the intermediate life cycle stage reflects family maturity with more demands on children's school support, clothing and increased shelter space demand which all require liquid capital to address, and the male head of the household is traditionally expected to address. With an average age gap of 14 years between male and female spouses in the dispersion life cycle stage (Table 4.1, Chapter 4), different expectations in terms of housing and food quality, particularly carbohydrate, as a result of the "generational" gap among the spouses may explain the different perceptions in experienced poverty.

Based on the score for the difference in number between male and female spouses, the intermediate life cycle stage represents the narrowest margin (4% points) suggesting a more equitable domestic atmosphere, unlike in the reproductive and dispersion life cycle stages.

Overall the disparities in experienced poverty between spouses within the same household could be attributed to the prevailing cultural norms which favor male dominance and privilege over females. The hierarchical access to food and most hidden female poverty are embedded in tradition and can only be changed by addressing the root traditional beliefs.

## **5.4. Conclusion**

Agricultural production assets transfer to poor rural households can help uplift their livelihoods by changing their experienced poverty for the better. However, the responses by households to agricultural production assets transfer vary according to the domestic life cycle stages, with some life cycle stages showing more pronounced responses among households in some poverty dimensions than others.

Changes in experienced poverty between the domestic life cycle stages are not shared equally and not uniformly distributed, suggesting that the upward mobility steps out of poverty do not spontaneously cover all poverty dimensions at the same time when agricultural production assets are availed.

The varied responses to agricultural production assets transfer imply that different domestic life cycle stages have got unique defining characteristics that condition their ability to utilize availed agricultural production assets effectively. This would suggest, therefore that anti-poverty programmes should pay enough attention not only to community age stratification but also to

intrinsic household attributes and basic need areas which may respond most to interventions among the domestic life cycle stages.

Within the households in the same life cycle stage, there are differences in perceived experiences of poverty between spouses both in lighter and worse poverty situations, and the male spouse has a more optimistic view of the perceived experiences than the female counterpart.

Among the domestic life cycle stages spouses within the same household have the least differences in perceived poverty experience in the intermediate life cycle stage, suggesting more equitable access to domestic resources than other life cycle stages.

## **CHAPTER 6 – DIVERSIFICATION, POVERTY DIMENSIONALITY STRUCTURE AND THE DEFINING HOUSEHOLD CHARACTERISTICS**

### **6.1. Introduction**

The effect of poverty mitigation programs in helping the poor to transform their social economic relationships and thereby realize substantial poverty upward mobility in Zambia has been hindered by a myriad of factors including failure to understand the poor's defining household characteristics and a lack of understanding with regards to their asset accumulation dynamics when they are availed production assets.

poverty is the inability to mobilize adequate resources to meet basic requirements at community, household or individual level (Alejandro, 2001), and it is a prominently rural phenomenon in Zambia where it affects 78% of the population, compared with 28% in urban areas (CSO, 2010). Individuals and households in rural Zambia have for some time been receiving nearly free agricultural crop production inputs such as seed and fertilizer, or small livestock such as goats, pigs or chickens as starter production stock, but have only marginally improved or relapsed into worse poverty over the years. Further, agricultural production assets transfer programs have always been supervised at community level by public agricultural extension workers whose major preoccupation has been under the technology transfer paradigm.

Agricultural production assets transfers can help poor people forestall asset depletion and thus have a chance to build an asset base that can better their wellbeing through improved productivity. According to Carter and Barret (2006), there exists an asset poverty line which can

help predict the same level of welfare as the money metric poverty line, and there is also a dynamic asset threshold that can help discern households that have a current asset status which forecasts improved future welfare from those whose current asset status forecasts a level of wellbeing below the poverty line. Provision of agricultural production assets represents a coordinated push that should dramatically increase the poor's productive capital and move their asset base towards the threshold necessary to take the first step out of poverty. Assets can lead to concrete planning about the future, which in turn can contribute to household stability, improved social participation, as well as better current and future chances for children (Shobe & Page-Adams, 2001).

Poor households that can eventually improve their asset base with time as the main ally will be able to make the first steps out of poverty and this movement could take some time depending on defining household characteristics that mediate the steady state levels of assets and final equilibrium level of welfare (Carter & Barrett, 2006). For the poor, the process of asset accumulation also involves self-insurance through diversification into other asset and activity portfolios that are perceived to have low or negative income correlations (Alderman & Paxson, 1992). The patterns of diversification are an indicator of individual's or households' agency to exchange assets and allocate them across a number of activity portfolios in order to attain an optimum balance between factor returns and risk exposure (Barrett, Reardon, & Webb, 2012). According to the 2008 World Development Report, many households in rural areas got their income from non-farm activities although they were also involved in farming. Kimhi (2000) further noted that between one third and two thirds of farmers in developing countries were involved in non-farm activities, and Rosenzweig (1998) added that income from non-farm activities has been found to be essential for the welfare of rural households. In studies on rural

livelihood diversification and agricultural household welfare in Ghana, Asmah (2011) observed significant differences in terms of variables related to household assets between diversified households and less diversified households, and further noted that household assets were the main drivers for both household welfare and rural non-farm diversification decisions. In rural Zambia, non-farm diversification includes handicraft production, carpentry and bricklaying, trading of agricultural produce, retail marketing and fish mongering. According to Olale (2011), some of the factors that influence income diversification, especially in developing countries are 1)Individual and household characteristics, including age, gender, education, marital status and household size, 2)Farm characteristics, including amount of land cultivated, number of crops grown, value of farm implements, membership in a farmer organization and access to agricultural extension, 3)Locational characteristics, including the nature of the roads, availability of electricity and distance from towns, 4)Barriers to income diversification, including inaccessibility to credit and market information, which may discourage non-farm income diversification and 5)Risk, including the impact of the variability of returns from various activities.

Understanding households' defining characteristics, including their diversification behavior with regards to revealed preferences among feasible sets of livelihood strategies can provide important insight into what type of interventions may be effective in reducing poverty and vulnerability. Knowledge about combinations of poverty dimensions in which the poor show positive changes in experiences of poverty when availed agricultural production assets can provide basis for predicting whether an individual, household or group will continue living in poverty, or escapes it in the foreseeable future. Further, a household's capacity to stand in the face of poverty varies with a number of factors including its stage in the domestic life cycle (Alejandro, 2001). Understanding poverty according to stages in the domestic life cycle can

provide a better insight into the dynamic responses to development interventions among households as they evolve over time. This is because each of the stages in the developmental process of households has got unique defining characteristics that condition their ability to put availed resources to effective use.

Therefore, the objective of this chapter is to determine the household defining characteristics that have potential to influence household livelihood strategies within the domestic life cycle stages, and clarify combinations of poverty dimensions in which poor households show lighter poverty experiences following acquisition of agricultural production assets.

## **6.2. Methodology**

Arising from Tables 5.1 and 5.2 in Chapter 5, the varied responses to agricultural production assets transfer imply that households in different domestic life cycle stages have particular defining characteristics that influence their household livelihood strategies and ability to utilize availed agricultural production assets, thereby conditioning their ultimate equilibrium level of well-being.

Households in agricultural production assets benefiting villages which indicated lighter poverty experience across the domestic life cycle stages in at least 50% of the poverty dimensions after assets acquisition were selected for determination of their potential defining characteristics, and clarification of combinations of poverty dimensions in which they showed the lighter poverty experiences. A total of 55 households (25 in the reproductive life cycle stage, 19 in the intermediate life cycle stage and 11 in the dispersion life cycle stage) were purposively selected.

In Kalabo and Shangombo districts where marriage arrangements are patriarchal with the female spouse having to move to the male spouse's village and literally depend on his available resources, the potential favourable characteristics were only considered for heads of households (male spouses) as individuals as well as for the household as a single unit.

The Rapid Appraisal inventory of defining household characteristics perceived to potentially influence household livelihood strategies and effective asset utilization (Table 3.4, Chapter 3), and information on the demographic characteristics of households by domestic life cycle stages (summarized in Table 4.1, Chapter 4) were used for analysis.

Hierarchical cluster analysis with Ward's method (Rencher & Christensen, 2012), and the Chi-square statistic were employed, using the Statistics Package for the Social Sciences (SPSS) program, to differentiate households moving into lighter poverty experiences. Binary Logistic Regression was used to predict the probability of household diversification (livelihood strategies) into given activity portfolios. For multiple predictors with a dichotomous outcome variable, the multiple linear regression equation is expressed in logarithmic terms for the probability of an outcome:

$$P(Y) = \frac{1}{1 + e^{-(b_0 + b_1X_1 + b_2X_2 + \dots + b_nX_n + \varepsilon_i)}}$$

Where:  $P(Y)$  is the probability of  $(Y)$  occurring

$e$  is the base of natural logarithms

$b_0$  is a constant

$X_i$  is the  $i^{\text{th}}$  predictor variable

$b_i$  is the  $i^{\text{th}}$  coefficient to the predictor variable

$\varepsilon$  is a residual term

Factor Analysis was used to clarify the combination (structure) of poverty dimensions that showed positive changes in poverty experiences.

## **6.3. Results and Discussion**

### **6.3.1. Hierarchical Clustering of Effective Asset Utilization Characteristics**

Cluster analysis is an exploratory tool for organizing observed data into groups of relatively homogeneous cases. It reveals associations and structure in data (Mooi & Sarstedt, 2011) thereby enable identification of exemplars to represent cases. Using cluster analysis, “Type of Household” can represent a homogenous group of community members who are more likely to effectively utilize agricultural production assets and gradually walk out of poverty.

In this study, post asset transfer households indicating lighter poverty experience in at least 50% of the poverty dimensions were assumed to possess defining characteristics that favour effective agricultural production assets utilization, and were identified per domestic life cycle stage for cluster analysis. The cluster analysis aimed at determining which particular defining characteristics of households could be present in the dominant group with regards to 9 variables (defining characteristics), namely 1) Level of education, 2) Number of own children, 3) Number of young dependents, 4) Number of old dependents, 5) Years lived in village, 6) Period of employment, 7) How long the visits to friends took, 8) How long the visit by friends took and 9) Period lived outside province.

Using ward’s method which applies squared Euclidean Distance as a similarity measure, two optimum clusters were identified as shown in the hierarchical tree diagram (dendrogram) in Figure 6.1. The clusters in the dendrogram are linked at increasing levels of dissimilarity.

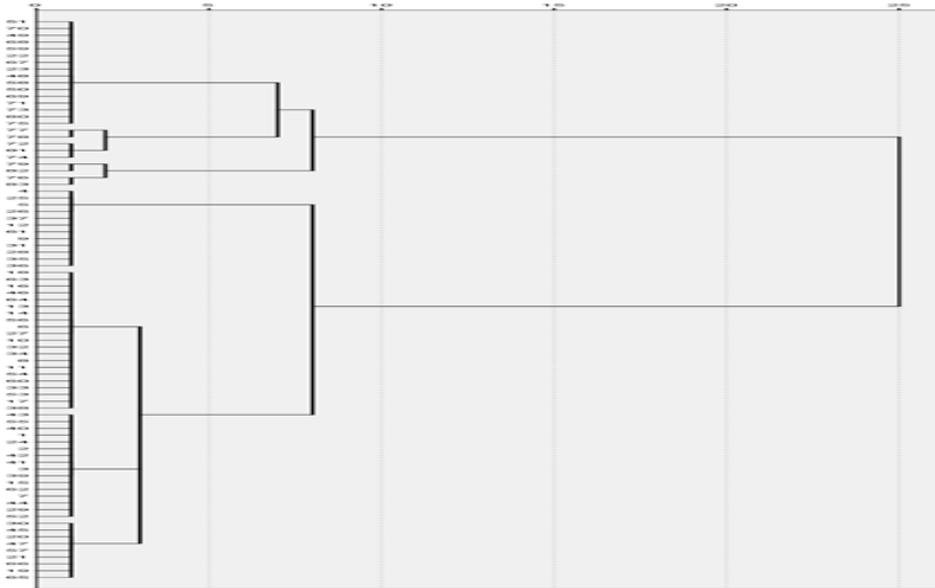


Figure 6.1: Dendrogram showing two optimum clusters

Source: Field survey data (2011, 2012)

One way Analysis of Variance (ANOVA) was conducted on the 9 defining characteristics to determine on which classifying they were significantly different between the clusters. The significant differences between variables for the clusters suggest the ways in which the clusters differ or on which they are based. Table 6.1 is the ANOVA and descriptive statistics summary for the defining characteristics.

Table 6.1: ANOVA and descriptive statistics for ordinal characteristics by domestic life cycle stage

Ordinal Characteristics		Domestic Life Cycle Stage								
		Reproductive(N=25)			Intermediate(N=19)			Dispersion(N=11)		
Attribute	Cluster	Mean	F	Sig	Mean	F	Sig	Mean	F	Sig
Level of education	1	8.33	2.264	>.05	8.08	1.545	>.05	7.71	13.641	<.05*
	2	6.67			9.29			1.25		
Number of own children	1	3.17	7.431	<.05*	6.00	.350	>.05	2.14	.441	>.05
	2	5.44			6.71			3.15		
Number of young dependents	1	.83	2.410	>.05	.83	.209	>.05	2.86	.412	>.05
	2	2.22			.71			2.00		
Number of old dependents	1	.11	10.256	<.05*	.83	4.204	>.05	1.00	.164	>.05
	2	1.44			.14			.75		
Years lived in village	1	28.39	157.55	<.05*	43.05	55.935	<.05*	26.00	38.538	<.05*
	2	8.56			20.86			74.75		
Period of employment	1	1.3	1.774	>.05	1.0833	.384	>.05	3.8571	.872	>.05
	2	.5			1.5714			.7500		
How long the visits to friends took	1	2.89	.166	>.05	1.42	7.261	<.05*	2.14	1.001	>.05
	2	2.44			5.00			4.25		
How long the visit by friends took	1	2.22	5.241	<.05*	2.83	.278	>.05	3.71	.374	>.05
	2	4.44			3.37			2.50		
Period lived outside province	1	0	2.083	>.05	1.67	1.777	>.05	5.57	.236	>.05
	2	.56			4.29			3.50		

Source: Field survey data (2011, 2012)

Note: \*: 95% confidence limit at which a defining characteristic differentiates between domestic life cycle stages  
F=F ratio

According to Table 6.1, in the reproductive life cycle stage, the two clusters of households moving into lighter poverty experiences in more than 50% of the poverty dimensions were significantly differentiated between the number of own children (F=7.431, P<.05), number of old dependents (F=10.256, P<.05), years lived in the village (F=157.55, P<.05) and how long visits by friends took (F=5.241, P<.05). For the intermediate life cycle stage, the two clusters were significantly differentiated between years lived in the village (F=55.935, P<.05), and how long the visit to friends took (F=7.261, P<.05). In the dispersion life cycle stage, the two clusters were differentiated between the level of education (F=13.641, P<.05), and the years lived in the village (F=38.538, P<.05). Table 6.2 is a cluster description summary from the ANOVA.

Table 6.2: Cluster description summary

<b>Domestic Life Cycle Stage</b>	<b>Cluster 1 (Dominant Cluster*)</b>	<b>Cluster 2</b>
Reproductive	Small number of own children,	Large number of own children
	Less older dependents	More older dependents
	less years lived in the village	More years lived in the village
	Shorter visits by friends.	Longer visits by friends
Intermediate	More years lived in the village	Less years lived in the village
	Shorter visits to friends	Longer visits to friends
Dispersion	Higher level of education	Lower level of education
	Less years lived in the village.	More years lived in the village

Source: Field survey data (2011, 2012)

Note: \* =The proportion of households in the dominant cluster for reproductive, intermediate and dispersion life cycle stages was respectively 67%, 63% and 64%.

### 6.3.2. Years Spent in the Village versus Poverty Upward Mobility

For all the three domestic life cycle stages, the clusters were significantly differentiated on the years spent in the village. One of the possible outcomes of a longer village stay could be prolonged engagement and interaction with other village folks leading to the advantage of investing social capital into the local networks. Benefitting from local networks requires establishment of trust, and the development of trust from other village members is a process that takes place over time (Kadushin, 2012). Social networks have value because they allow access to resources and valued social norms. While individual social capital increases individual well-being, group level social capital provides individuals with information that is timely and trustworthy (Kadushin, 2012) and can provide better ability to navigate around hurdles. However, according to Table 6.1, the condition for longer stay in the village among majority households only applied to the reproductive and intermediate life cycle stages. Among the dispersion life cycle stage, upward mobility favoured those who lived fewer years in the village.

### 6.3.3. Old Age, Level of Education and Poverty Upward Mobility

According to Table 6.1, level of education was a uniquely differentiating characteristic in the dispersion life cycle stage. Majority households in cluster 1 among the dispersion life cycle stage had a mean average education level of grade 8, which represents upper basic education that could be used for employment in artisanship according to the Zambia education curriculum. The dispersion domestic life cycle stage, however, was composed of elderly individuals who were no longer in employment. This information may corroborate the assumption that households moving into lighter poverty among the dispersion life cycle stage were doing so partly as a result of their earned pensions when they worked from outside the village and only returned recently, hence fewer years lived in the village. Given the higher level of education and the consequent possibility of earned pension from prior employment, households in the dispersion life cycle stage could have their asset portfolios further improved upon receipt of agricultural production assets. The likelihood of improved returns to agricultural production assets may also explain why according to Table 5.1, the dispersion life cycle stage had up to 20 % points increment in the number of households moving into lighter income poverty experience. It was also possible that better educated household heads could use their literacy for improved decision making and more systematic planning which favour effective asset utilization. This information suggest that in this isolated area of the country, education earlier in life could be an important factor to improved wellbeing during old age

#### 6.3.4. Reproductive Life Cycle Stage, Family Size and Poverty Upward Mobility

According to Table 6.1, number of own children and number of adult dependents significantly differentiated the two clusters only in the reproductive life cycle stage. The reproductive life cycle stage symbolizes initial family formation. In Table 6.1, cluster 1 which had majority households also had the smallest number of own children ( $M=3.17$ ,  $F=7.431$ ,  $P<.05$ ) and the least number of old dependents ( $M= .11$ ,  $F=10.256$ ,  $P<.05$ ) compared to cluster 2 (minority households) with respectively number of own children ( $M=5.44$ ) and number of old dependents (1.44). While the relatively large family size in cluster 2 could represent a potential household labour pool for farm work, majority households had a relatively smaller household size and such could partly be the condition which enabled the households in the reproductive life cycle stage to migrate into lighter poverty experience. The smaller number of large households which were able to migrate into lighter poverty experiences could also be confirmation that large household size is one of the key drivers into poverty (Lister 2004). The information suggests that having a larger family size during the early stages of family formation may be a hindrance to improving wellbeing.

#### 6.3.5. Peer Interaction and Poverty Upward Mobility

According to Table 6.1, the reproductive life cycle stage was differentiated by how long friends visited the households, while the intermediate stage was differentiated by how long the households visited friends. While the two scenarios may have different implications; "...I can't invite friends to visit me because I have nothing to give them...", as one respondent retorted, unlike visits by relatives which often go with "checking on the health" or discussing family

issues, there is an element of peer interaction when friends visit each other. While cluster 1 among the reproductive domestic life cycle stage showed that majority members were visited only half the time spent in cluster 2, cluster 1 among the intermediate life cycle stage showed that majority members spent slightly more time when they visited friends. This information suggests that peer visits among the youthful, reproductive life cycle stage take relatively shorter days while those among the intermediate life cycle stage, representing family maturity, generally take more days. These visits to and from friends inherently consist of some form of interaction that may involve exchange of rich new ideas and information which could favour effective asset utilization. This was more so that the kind of visits considered in the study were those involving friends from distant places outside the neighbourhood, as visits to places outside one's community could have the advantage of structural holes, and thus the benefit of progressive information from diverse sources (Kadushin, 2012). The advantage of peer interaction lies in the more age-appropriate vocabulary and examples: according to the Australian Parental Website (<http://raisingchildren.net.au>), experiences with peers affect social, emotional, and cognitive functioning beyond the influences of family and neighbourhood. The information therefore suggests that visits among peers especially between households in the reproductive and intermediate life cycle stages could have been a contributing factor to their poverty upward mobility.

### 6.3.6. Reproductive Life Cycle Stage and Upward Mobility Push Factors

For categorical (nominal) characteristics, the Chi-square test was done with cluster analysis to determine whether there is any significant association between a given attribute and specific clusters. Table 6.3 is the summary for cross tabs analysis using SPSS.

Table 6.3: Chi-square statistics for categorical characteristics by domestic life cycle stage

Categorical Characteristics	Reproductive		Intermediate		Dispersion	
	$\chi^2$	Sig	$\chi^2$	Sig	$\chi^2$	Sig
Experience in managing cattle	.307	.580	1.362	.243	.629	.429
Experience in managing chickens	4.320	.038	A*		A*	
Main on-farm income source	3.857	.277	2.315	.314	1.925	.165
Ever had salaried job	.297	.586	.425	.515	.505	.477
Kind of salaried job	1.699	.428	5.689	.058	1.493	.474
Visit to friend in last one year	1.985	.159	2.574	.109	1.061	.303
Visit by friend in last one year	2,345	.125	1.534	.216	.505	.477
Participation in village activities	6.750	.009	.833	.361	.052	.819
Leadership position in village activities	3.068	.080	.172	.678	.505	.477
Ever stood for elected office	A*		A*		A*	
Belief in traditional taboos	4.876	.181	.854	.652	2.357	.308
Belief in religious taboos	2.025	.363	.735	.692	1.397	.497
Assets once owned by parents	12.525	.002	2.078	.149	.196	.658
Main off-farm income source	4.531	.104	3.242	.356	1.637	.804
Ever lived outside home province	2.077	.150	.090	.764	.351	.554

Source: Field survey data (2011, 2012)

Note: A\*: No statistics are computed because no household responded.

$\chi^2$  = Chi-Square Statistic

According to Table 6.3, there were significant associations between the clusters in the reproductive life cycle stage specifically with respect to the experience of managing chickens ( $\chi^2 = 4.320$ ,  $P < .05$ ), participation in village activities ( $\chi^2 = 6.750$ ,  $P < .05$ ), and assets once owned by parents ( $\chi^2 = 12.525$ ,  $P < .05$ ). The rest of the other characteristics did not produce any significant associations.

Experience is a good teacher, so it is said. Households that had previous experience of managing village chickens might have used their experience to more effectively manage and utilize the brooder chickens that were availed under the agricultural production assets transfer. This information therefore suggests that prior experience of some activity may be advantageous when a similar activity is presented for improved livelihood purposes.

Participation in village activities provides an opportunity to show initiative and develop skills and boost self-confidence. Getting involved with village activities makes individuals come into contact with positive role models, and cooperating with other adults encourages to see the world in different ways. Village activities also give people a chance to apply the skills they already have, thus an opportunity to see how many skills one has, and how valuable they can be. Consequently, such could be partly the condition which enabled the majority households among the reproductive life cycle stage to migrate into lighter poverty experience.

While assets may be intergenerational and can be passed on and inherited by offspring, the types of assets one's parents possessed at the time of beginning own adult life may be significant in laying a foundation for a smooth take off into the future. Prior ownership of certain types of assets by one's parents could play a catalytic role as stepping stone into lighter poverty experiences among households in the reproductive life cycle stage. In this study, majority of the parents owned cattle, and the role of parents' cattle could be traced in the possibility of easily accessible animal draft power (oxen and accompanying equipment) in the absence of agricultural production assets transfer, and thus helped to build an initial asset portfolio which was further built through the agricultural production assets transfer.

The information in Table 6.3 suggests that heads of households in the reproductive life cycle stage who had prior experience of managing a given asset, were actively participating in village

activities and their parents owned valuable farm implements, particularly animal draft power, had better chances of migrating into lighter poverty experience if availed agricultural production assets.

### 6.3.7. The Domestic Life Cycle Stages and Diversification Behavior

Beneficiaries of agricultural production assets transfer commonly invested returns in order to boost their respective asset portfolios. Differentiating households based on investment strategies could provide some insight into possible diversification behavior.

Limiting to only households which showed movement into the lighter levels of poverty experience in at least 50% of the dimensions, five main areas of diversification were identified among the households, as shown in Table 6.4 with actual proportions of households involved in each area of diversification. In Kalabo and Shangombo districts which are outlying areas and lacking any reasonable economic opportunities, the type of diversification could be viewed as mere diversification of areas of speculation as it does not represent distinct economic sectors.

Table 6.4: Diversification Strategies

<b>Domestic Life Cycle Stage</b>	<b>Crop Production</b>	<b>Market Middle Men</b>	<b>Cattle Rearing</b>	<b>Craftsman -ship</b>	<b>Savings</b>
Reproductive	87%	33%	13%	0%	73%
Intermediate	87%	53%	13%	13%	47%
Dispersion	80%	20%	20%	0%	60%

Source: Field survey data (2011, 2012)

Note: Indicated percentages according to the domestic life cycle stages or investment areas do not add up to 100% because individuals invested in more than one activity at a time.

According to Table 6.4, at least 80% of all households in respective domestic life cycle stages used part of their returns from benefitted assets to venture into expanded crop production. Households in the reproductive and dispersion life cycle stages followed their crop production

with substantial investment into savings (respectively 73% and 60%). For the intermediate domestic life cycle stage, investment into crop production was followed by almost equal investment into market middleman-ship (53%), and savings (47%). The dispersion life cycle stage had the least number of households (20%) investing into market middleman-ship, and so was the reproductive life cycle stage (13%) with investment into cattle rearing. Households among the intermediate domestic life cycle stage invested least but equally into cattle restocking and craftsmanship.

Strategies of diversification are an indicator of individual's or households' agency to exchange assets and allocate them across a number of activity portfolios (Barrett, Reardon, & Webb, 2012). According to Table 6.4, the diversification strategies do not follow a similar pattern across the domestic life cycle stages. The common investment into expanded crop production by nearly all households generally could point to the need to achieve household food security particularly in the staple maize crop. Other than that, the diversification preferences were varied. While both the reproductive and dispersion domestic life cycle stages favored investment into savings after field expansion, this investment was more prevalent among reproductive domestic life cycle stage members. Similarly, although all the three domestic life cycle stages placed cattle rearing as the least area of investment, it was more favored among the dispersion domestic life cycle stage. Between the domestic life cycle stages, the intermediate life cycle stage represented broader diversification as it was the only one seen to have diversified into craftsman-ship. The differing emphasis in areas of investment between domestic life cycle stages suggests that there may be differences in considerations and mitigating circumstances. This seems to confirm Wright's (2000) observation that the poor usually have a better understanding of the issues and social economic circumstances surrounding them, and would put elements of any support to the most

rational use. Further, Iiyama (2006) observes that even where households have similar endowments, production techniques, preferences, constraints and incentives attached to particular livelihood activities may be different.

Binary Logistic Regression analysis is a way of predicting two categorical outcomes from predictor variables (Field, 2009), and can be used to predict the probability of whether a household would diversify into particular activity portfolios or not, given its defining characteristics. Table 6.5 is a logistic regression summary indicating predictors (out of those in Table 3.4 above) which are general for all areas of diversification.

In Kalabo and Shangombo Districts where marriage arrangements are patriarchal with the female spouse having to move to the male spouse's village and literally depend on his available resources, characteristics that could potentially influence household choices and effective asset management and mediate upward mobility were only considered for heads of households (male spouses).

In Logistic Regression, a significant Roa's Efficient Score Statistic represents a predictor's potential to contribute to an outcome. Nagelkerke's  $R^2$  reaches its theoretical maximum of 1, and is a measure of how well the regression model fits the data.

Table 6.5: General predictors of diversification strategies

Area of Diversification	Predictive Variable	Roa's Efficient Score Statistic	Sig	Nagelkerke's $R^2$
Crop Production	Selective traditional taboo	3.97	.046	.23
Marketing	Fishing	3.97	.046	.173
Middle	Selective traditional taboos	4.297	.039	.126
Man-ship	Non-belief in traditional taboos	3.887	.049	.134
	Years lived in village	6.22	.013	.195
	Number of biological children	6.983	.008	.226
Cattle Rearing	Prior formal permanent employment	4.728	.030	.151
Craftsmanship	Number of biological children	4.692	.030	.142

Source: Field survey data (2011, 2012)

According to Table 6.5, diversification into expanded crop production was significantly predicted by selective belief in traditional taboos, ( $p < .05$ , Nagelkerke's  $R^2 = 0.23$ ). Diversification into market middleman-ship activities was significantly predicted by a number of variables including engagement in fishing ( $p < .05$ , Nagelkerke's  $R^2 = 0.173$ ), selective or complete non-belief in traditional taboos (respectively  $p < .05$ , Nagelkerke's  $R^2 = 0.126$  and  $0.134$ ), years lived in the village ( $p < .05$ , Nagelkerke's  $R^2 = 0.195$ ), and number of biological children ( $p < .05$ , Nagelkerke's  $R^2 = 0.226$ ). Prior formal pensionable employment significantly predicted potential to diversify into cattle rearing ( $p < .05$ , Nagelkerke's  $R^2 = 0.151$ ).

Selective or complete non-belief in traditional taboos may be the escape route from the shackles of some obsolete traditional beliefs that preclude individuals from engaging in remunerative enterprises. It opens individuals to a variety of livelihood activities and practices that would otherwise be prohibited by tradition. The link between selective or non-belief in traditional taboos with potential to expand crop field hectareage could partly lie in the locally observed prevalent norm that women cannot handle oxen, and so cannot use ox-drawn implements. Discarding this notion could mean more readily available farm labor from female spouses to accomplish tasks such as cultivation of large tracts of land, or ox-drawn planting and fertilizer application which is more efficient.

Market middleman-ship represents non-farm diversification. In the recollections about some of the factors that influence income diversification, especially in developing countries, Olale (2011) observes that locational factors, including the nature of roads and distance from towns, as well as household characteristics including family size, play an important role in choosing the kind of activity to diversify into. With the isolated nature of Kalabo and Shangombo Districts, coupled with their poor communication networks, long distance middleman-ship in various consumables

provides a credible opportunity for income generation. Like craftsmanship, market middleman-ship is closely linked to availability of family labor particularly from own (biological) children. The role of own children in marketing middleman-ship and craftsmanship may lie in the provision of unpaid labor. This is in line with Asmah's (2011) observation that engagement in non-farm work with the likelihood of positive dividends on welfare was more probable among households with members aged 5 years or older because participation in off-farm work was critically dependent on labor availability. Much as this may be true however, it unfortunately implies that the helper children may have to be withdrawn from school in order to support the family income generation activities. It is no coincidence therefore that marketing middleman-ship and craftsmanship are more prevalent in the intermediate domestic life cycle stage (Table 6.4), as Asmah (2011) further notes that the likelihood to engage in non-farm activities decreases as the head of household grows in age.

The importance of the number of years an individual lived in the village possibly lies in the local network ties and network holes (Kadushin, 2012) that respectively enable people to scan local felt needs for outside services, or conversely understand local activity areas of comparative advantage that can be of use to the outside. This fits well with market middleman-ship especially when consumable goods traffic is in both directions.

Prior formal permanent employment brings with it the possibility of hefty pension incomes that are soon converted into cattle as both a store of wealth and symbol of status. If this was the case then it may commonly apply to the elderly retirees, and seems to be confirmed in Table 6.4 where the dispersion life cycle stage tops in the diversification into cattle rearing.

The results in Table 6.5 show predictive variables that indicate potential to diversify into particular activities across the stages in the domestic life cycle. Some predictive variables were however specific to particular stages in the domestic life cycle as shown in Table 6.6.

Table 6.6: Specific predictors of diversification strategies within domestic life cycle stages

Domestic Life Cycle Stage	Area of Diversification	Predictive Variable	Roa's Efficient Score Statistic	Sig	Nagelkerke's R <sup>2</sup>
Reproductive	Savings	Animal Draft Power	7.422	.006	0.255
Intermediate	Savings	Fishing	5.200	.022	0.21
Dispersion	Expanded Field	Local Beer Brewing	6.481	.011	0.163

Source: Field survey data (2011, 2012)

According to Table 6.6, between the domestic life cycle stages, ownership of animal draft power (oxen and accompanying equipment) significantly predicted investment into savings in the reproductive domestic life cycle stage ( $p < .05$ , Nagelkerke's  $R^2 = 0.255$ ), engagement in fishing significantly predicted investment into savings in the intermediate domestic life cycle stage ( $p < .05$ , Nagelkerke's  $R^2 = 0.21$ ) and brewing of local opaque beer significantly predicted investment into expansion of the crop field in the dispersion stage ( $p < .05$ , Nagelkerke's  $R^2 = 0.163$ ).

In Kalabo and Shangombo Districts, cattle are both wealth and status symbol. Oxen can be used within the household for field cultivation and farm produce transport, or hired out for several purposes. In studies on Integrated Poverty Assessment of Livestock Promotion in Vietnam, Otte et al., (2005), observed that livestock especially cattle are used for plowing and provide non-human power to poor farmers who cannot afford modern means of plowing their fields. Selloane et al., (2012) further alludes to the importance of livestock utilization in planting vegetables, fruit and other food products for own consumption or exchange in the market place for household

income in Lesotho. Young energetic oxen owners could be in better position to hire out and operate animal draft power which so much depends on physical strength. It is therefore no coincidence that potential to save income among the reproductive domestic life cycle stage is significantly predicted by ownership of animal drought power. The ability by the reproductive domestic life cycle stage to manage savings as a result of handling ADP also points to their comparative advantage in terms of physical strength and suggests that they could be more likely to be involved in more strenuous livelihood activities.

Fishing in the study area is commonly done in natural water ways when rain-fed crop production is off-season. The fish ban comes into effect just when the staple crop production season starts. The fishing practice commonly involves the practice of barter trading system through which fishermen may trade their fish for household durables which they later sale back at their home villages. This is no wonder then that households involved in marketing middleman-ship are also likely to be fishermen, and will have to depend on unpaid own child labor. This coincidence seems to favor the assumption that the intermediate domestic life cycle stage is therefore more likely to take advantage of the availability of unpaid child labor which is abundantly available (Table 4.1).

Brewing and selling local opaque beer is a common phenomenon in the study area. However, the uniqueness of beer brewing as a predictor for expansion of crop fields in the dispersion domestic life cycle stage alludes to its possible convenience, considering the advanced age of the dispersion domestic life cycle stage. The beer brewing and selling is often done within the household perimeters where the ingredients are also kept, and thus less labor consuming. This tendency suggests that the dispersion domestic life cycle stage would be more likely to be involved in livelihood activities that are less labor intensive.

Savings can be seen as a part of disposable income which is not spent on consumption, and can be used as a catalyst for capital formation (Bime & Mbanasor, 2011). In their theoretical specification of asset effects on well-being, Shobe et al., (2001) suggested that savings first provide people with otherwise unattainable opportunities to hope, plan, and dream about the future for themselves and their children.

#### 6.3.8. Using Potential Defining Household Characteristics to Manage Asset Transfer Programs

The household defining characteristics noted above as having potential to mediate utilization of transferred agricultural production assets could also be used as basis for effective targeting of agricultural assets beneficiaries and also for follow-up management of agricultural production assets transfer programmes. An asset transfer programme aimed at demonstrating quick impact could deliberately leave out households with negative characteristics such as larger family size in the reproductive domestic life cycle stage, those who have lived only a few years in the village among reproductive and intermediate domestic life cycle stages, or less educated elderly household heads in the dispersion domestic life cycle stage. On the other hand, a programme designed to reach out to the poor who lack the desired characteristics could use their absence, such as lack of experience in managing a particular asset, as basis for introducing a relevant training component to provide the needed experience. In the same vain, households characterised by lack of participation in village activities could either be subjected to conditional asset transfers that emphasise community development, or designed a deliberate exposure programme to the outside of their neighbourhood where they could learn from peers.

### 6.3.9. Structural Bifurcation of Upward Mobility Poverty Dimensions

Factor Analysis is a technique used to understand the structure of a set of variables and helps to know whether different variables are driven by the same underlying latent factor (Field, 2005). For any underlying latent factor (Y) the linear model equation will apply:

$$Y_i = b_1X_1 + b_2X_2 + \dots + b_nX_n + \epsilon_i$$

Where:

$Y_i$  = Latent factor

$X_i$  is the  $i^{\text{th}}$  variable for the latent factor

$b_i$  is the factor loading for the  $i^{\text{th}}$  variable

$n$  = Number of variables for latent factor Y

In the case of factor analysis, the equation has no intercept because the lines intersect at zero.

Arising from Tables 5.1 and 5.2 (Chapter 5), different domestic life cycle stages had varied responses to agricultural production assets transfer and experienced lighter poverty in different poverty dimensions at a time. Limiting to only households which indicated lighter poverty experience across the domestic life cycle stages in at least 50% of the poverty dimensions after assets acquisition, the lighter poverty dimensions were analysed to determine the structure of their latent variables. Table 6.7 is an R-matrix showing correlation coefficients for each pair of lighter poverty dimensions. Any significant correlation coefficients are shaded in colour.

According to Table 6.7, taking only coefficients above .3 to imply reasonable correlation, lighter poverty experiences in clothes poverty correlates well with lighter poverty experiences in transport to hospital, housing, dietary carbohydrate and dietary protein, implying that households

that indicate improvements in their clothes poverty are also likely to improve in the other poverty dimensions.

Table 6.7: R-matrix for paired lighter poverty dimensions

<b>Lighter Poverty Dimensions</b>	Clothes	Hospital Transport	Income	Housing	Dietary Carbohydrate	Dietary Protein	Animal Draft Power	Education Support
Clothes	1							
Hospital Transport	0.312	1						
Income	0.211	-0.136	1					
Housing	0.456	0.118	-0.052	1				
Dietary Carbohydrate	0.519	0.303	0.079	0.413	1			
Dietary Protein	0.443	0.11	0.243	0.14	-0.032	1		
Animal Draft Power	0	-0.354	0.367	-0.091	-0.046	-0.047	1	
Education Support	0.16	0.069	0.507	-0.195	0.195	0.041	0.399	1

Source: Field survey data (2011, 2012)

Further, lighter poverty experiences in dietary carbohydrate correlate well with lighter poverty experiences in hospital transport and housing, implying the likelihood that households with improvements in the lighter poverty of dietary carbohydrate are also likely to experience improvements in the poverty of hospital transport and housing. On the other hand, lighter poverty experience in income correlates well with lighter poverty experiences in animal draft power (ADP) and children's education support. There is also correlation between lighter poverty experiences in ADP and children's education support. This implies that households with lighter poverty experiences in income are also likely to have lighter poverty experiences in ADP and education support to children. Table 6.8 is a matrix of factor loadings representing two main underlying latent factors (columns), with the rows representing the loadings of each poverty dimension onto each latent/underlying factor. The values of the factor loadings against each

lighter poverty dimension represent the extent to which the lighter poverty dimension is related to the particular factor.

Table 6.8: Factor matrix for lighter poverty dimensions

Lighter Poverty Dimension	Factor	
	1	2
Clothes	.841	.174
Transport to Hospital	.570	-.307
Income	.117	.835
Housing	.636	-.216
Dietary Carbohydrate	.742	.153
Dietary Protein	.412	.179
Animal Draft Power	-.240	.664
Education Support	.224	.724

Source: Field survey data (2011, 2012)

According to Table 6.8, and taking only values above .5 to mean strong relationship, clothes, transport to hospital, housing and dietary carbohydrate are strongly related to Factor 1, while income, animal draft power and education support are strongly related to Factor 2. The strength of the relationship between the variables (lighter experience poverty dimensions) and each underlying factor as shown in the factor matrix is reflected in a factor plot shown in Figure 6.2.

According to Figure 6.2, and at a glance, animal draft power (ADP), improved income, and education support to children appeared to represent the same underlying latent factor, which was now designated as “capital accumulation”. On the other hand, clothes, housing, dietary carbohydrate and transport to hospital (Hsptrans) appeared to represent a separate underlying latent factor, which was now designated as “domestic consumption”. All individuals who showed positive changes in at least 50% of the poverty dimensions indicated that they had invested returns from the use of transferred agricultural production assets. This investment of returns

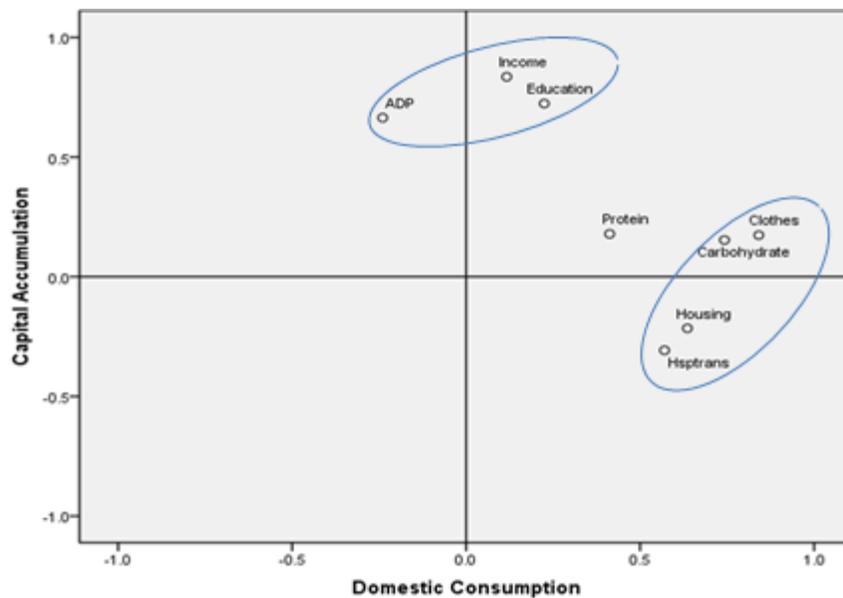


Figure 6.2: Structure of poverty dimensions with lighter poverty experience  
 Source: Field survey data (2011, 2012)

suggests that the households had diversified into other income generating activities that could have contributed to their improved poverty experiences. Combinations of poverty dimensions in which households indicated lighter poverty experiences can be used to clarify the structure of poverty dimensions which underlie positive changes in the experienced poverty. This can be used in turn to tell whether the dimensionality structures could sustainably catapult concerned households out of poverty traps over time.

According to Figure 6.2, two clusters distinguish the underlying structure of poverty dimensions involved in lighter poverty experiences. In one cluster, improvements in the poverty of housing, dietary carbohydrate, clothes and transport to hospital suggest that immediate domestic consumption was being smoothened. The other cluster shows households with lighter poverty experiences involving ADP, income and education support. Animal drought power is a productive asset and represents physical capital. The draft power packages can be used for land

cultivation, farm produce transport and provision of manure for crop production. Income represents financial capital and improvements in household income levels entail a reduction in liquidity constraints and asset depletion. Support to children's education is a pointer to human development and hence enhanced human capital. This cluster therefore seems to underlie accumulation of capital. The underlying structure of the poverty dimensions in Figure 6.2 therefore suggests a bifurcation in terms of use to which returns to agricultural production assets are put. If asset creation and accumulation are the precondition for moving out of poverty (Barret et al., 2001; Carter et al., 2006; Lister, 2004; Shobe et al., 2001), then the category of beneficiaries that take the route of consumption smoothing are less likely to make it out of the poverty trap, while those who make steady strides in accumulating capital could eventually reach an asset threshold necessary to enable them walk out of the poverty trap. The bifurcation demonstrated could be important in understanding why beneficiaries of agricultural production assets transfer don't all eventually move out of poverty, with some actually becoming worse than before asset transfer, just because they don't use returns to assets for steady accumulation of more assets over time.

In Zambia where agricultural production assets based programs are generally supervised by public extension workers whose major preoccupation is crops technology transfer, effective supervision of transferred agricultural production assets in order to enable beneficiaries move closer to the desired asset threshold represents a possible paradigm shift in extension services delivery. Extension services provision will have to operate more under the human development pillar (Coutts, 1994) and less under technology transfer in order to facilitate bias towards domestic expenditure that supports asset accumulation, and dissuade asset beneficiaries from drifting much towards smoothing domestic consumption.

## **6.4. Conclusion**

A good comprehension of key defining household characteristics could be helpful not only in selecting and determining which households may have the potential to quickly make the first steps out of poverty, but also designing follow up programs to prop up the poorest with most disadvantaged attributes.

While beneficiaries of agricultural production assets commonly diversified by investing returns to agricultural production assets transfer into various activity portfolios, the diversification strategies were neither similar nor uniform across the domestic life cycle stages. Some areas of diversification had potential predictors which were unique to particular domestic life cycle stages.

Beneficiaries of agricultural production assets transfer did not all use returns from diversified income portfolios to achieve positive experiences in poverty dimensions that favour asset creation and accumulation, instead there was a bifurcation into those who did and others who committed to smoothening domestic consumption. This bifurcation in the use of returns to diversified income portfolios is important in understanding why beneficiaries of agricultural production assets transfer don't all eventually move out of poverty.

The bifurcation suggests the need for facilitated bias towards domestic expenditure that supports asset accumulation, and dissuades asset beneficiaries from drifting much towards smoothening domestic consumption. Such could be achieved by making the production assets transfer conditional on willingness to save part of the generated income.

Thus together, the process of movement out of poverty linking the poverty dimensionalities, defining household characteristics as well as diversification patterns and structure of poverty dimensions can be summed as in Figure 6.3.

According to Figure 6.3, poverty is similarly perceived regardless of the domestic life cycle stage. Once households have been availed agricultural production assets through transfers, they utilize these assets and get initial returns whose further investment will be influenced by defining household characteristics some of which are general across the life cycle stages, and others are specific to them. The diversification choices for the reproductive life cycle stage are more human strength based while those for the intermediate life cycle stage lean towards use of unpaid labor from biological children, and the dispersion life cycle stage would prefer less labor intensive activities. These diversified local income sources then bring about lighter experiences of poverty in varied poverty dimensions which can be grouped into those that represent asset accumulation and those which represent domestic consumption smoothing. The continuous bold arrow upwards suggests that households who create and accumulate capital will eventually move out of poverty. The dotted deflected arrow suggests that smoothing consumption at the expense of asset accumulation may not sustainably lift households out of poverty and such households could relapse into possible worse poverty after sometime.

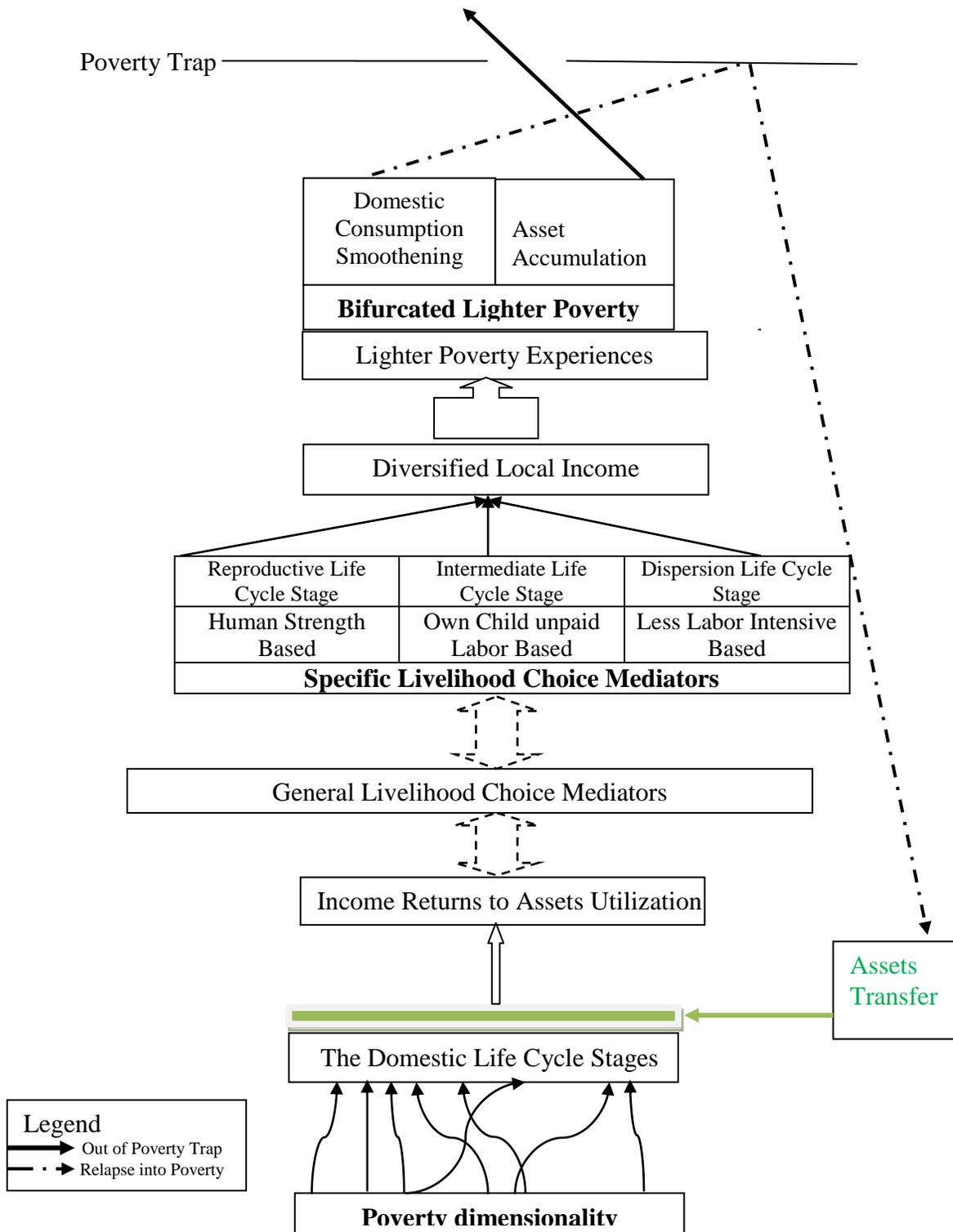


Figure 6.3: Framework for poverty upward mobility using agricultural production assets.  
Source: Field survey data (2011, 2012)

## **CHAPTER 7 - CONCLUSION AND RECOMMENDATIONS**

The domestic life cycle which should be characterized by family expansion, maturity and dispersion is distorted by poverty due to the inward migration of kinsmen, and the prevalence of much younger female spouses in the dispersion domestic life cycle stage. While perceptions of poverty in the three domestic life cycle stages are similar, experiences of poverty differ between the domestic life cycle stages, and the different experiences are also reflected at the household level, where the superior male spouse income sources relative to the female spouse may further point to unequal household consumption. The reproductive life cycle stage experiences the poverty of dietary carbohydrate, dietary protein and income, which are more consumption based, while the intermediate stage experiences mainly the poverty of clothes, housing, and transport to hospital, which are more welfare based. Among the 8 poverty dimensions, dietary carbohydrate and clothes poverty have the strongest association with the domestic life cycle stages and their extreme experiences are most noted in the dispersion life cycle stage which represents old age.

Agricultural production assets transfer to poor rural households can help uplift their livelihoods by changing their experienced poverty for the better. However, the responses by households to agricultural production assets transfer vary according to the domestic life cycle stages, with some life cycle stages showing more pronounced responses among households in some poverty dimensions than others. Changes in poverty experienced between the domestic life cycle stages are not shared equally and not uniformly distributed, suggesting that the upward mobility steps out of poverty do not spontaneously cover all poverty dimensions at the same time when agricultural production assets are availed.

Within the households in the same life cycle stage, there are differences in perceived experiences of poverty between spouses both in lighter and worse poverty, and the male spouse has a more optimistic view of the perceived poverty experiences than the female counter part. Among the domestic life cycle stages spouses within the same household have the least differences in perceived poverty experience in the intermediate life cycle stage, suggesting more equitable access to domestic resources than the reproductive and dispersion life cycle stages.

The varied responses to agricultural production assets transfer imply that different domestic life cycle stages have got unique defining characteristics that influence their ability to effectively utilize the availed agricultural production assets. This would suggest, therefore, that anti-poverty programs should pay enough attention not only to community age stratification but also to the defining household characteristics and basic need areas which may respond most to interventions among the domestic life cycle stages.

A good comprehension of the defining household characteristics could be helpful not only in selecting and determining which households may have the potential to quickly make the first steps out of poverty, but also in designing follow up programs to prop up the poorest with most disadvantaged attributes.

Beneficiaries of agricultural production assets transfer commonly invest returns into various income portfolios and their strategies for diversification into the income portfolios using the investment returns are neither similar nor uniform across the domestic life cycle stages, and some areas of diversification have potential predictors which are unique to particular domestic life cycle stages.

Beneficiaries of agricultural production assets transfer don't all use returns from diversified income portfolios to achieve lighter poverty experiences in poverty dimensions that favor asset

creation and accumulation, and there is a bifurcation into those who do and others who commit to smoothening domestic consumption. This bifurcation in the use of returns to diversified income portfolios is important in predicting whether an individual or household will continue living in poverty, or escapes it in the foreseeable future, given time as the major ally, and is a pointer to why beneficiaries of agricultural production assets transfer don't all eventually move out of poverty, with some even relapsing into worse poverty.

The bifurcation suggests the need for facilitated bias towards domestic expenditure that supports asset accumulation, and dissuades asset beneficiaries from drifting much towards smoothening domestic consumption. Such could be achieved through conditional asset transfers based on mandatory savings as a pre-condition. However, in the case of Zambia where supervisors of agricultural production assets transfer are public extension workers with strong bias towards technology transfer, this requirement represents an extension paradigm shift to more human development approaches. Necessary skills for facilitating agricultural assets transfer programs are currently lacking among public extension workers. This necessitates the introduction of such skills through In-Service training in the short term, and a complete overhaul of the extension syllabi in the agricultural training institutions as a long term remedial action.

In developing countries where anti-poverty interventions are commonly spearheaded by external donor agencies that lack understanding of the local situation, this study will provide some guidance in the design and implementation of micro level interventions aimed at eliminating poverty. The participatory poverty profile matrix used in the study will provide a blue print for less costly micro level undertakings to understand the poor's poverty situation. The illumination on local level perceptions and experiences of poverty, as well as the varied responses to agricultural production assets transfer according to the domestic life cycle stages with unique

defining household characteristics provide additional empirical evidence to support need for policy makers to tailor interventions to specific need areas that may respond most to particular development interventions.

Conceptually, this study contributes towards debunking the myth about failure of the poor to make reasonable steps in transforming their social and economic relationships despite repeated access to various forms of assistance. The structural approach to understanding combinations of poverty dimensions in which the poor show positive changes in experienced poverty when availed agricultural production assets can provide basis for an early warning mechanism to predict whether an individual or household is on course to create and accumulate assets towards the level necessary to make the first step out of poverty.

In studies to examine the extent to which emerging social transfer programs in developing countries can improve the productive capacity of households in poverty and contribute to micro-level growth, Barrientos (2012) identifies three main growth mediating processes, namely 1) credit and liquidity constraints, 2) consumption and asset security and 3) household resource allocation as the main link between social transfers and improvements in the productive capacity. This study has demonstrated that in addition to the growth mediating factors, domestic life cycle characteristics which define individuals and households that are targets of the social transfers also play a background role in determining the ultimate level of wellbeing. They influence households' decisions in determining the type of household investment strategies and ultimately how they accumulate the necessary level of assets to move out of poverty.

In order for agricultural production assets transfer to be more effective as a social investment intervention, there is need for a policy framework that fully embraces the dynamics of the domestic life cycle stages. This study has demonstrated that the dispersion life cycle stage which

represents old age is more prone to extreme poverty across all the dimensions, and yet the dispersion life cycle stage's scope of alternative livelihood strategies appear to be limited by its defining characteristics more especially the inability to engage in labour intensive activities. It should be therefore incumbent upon the government and implementing agencies to target the respective life cycle stages with appropriate support that takes comparative advantage of each life cycle stage into consideration. For the dispersion life cycle stage to enjoy lighter poverty experiences much the same as the reproductive and intermediate life cycle stages, there should be deliberate measures to introduce labour saving technologies and old age friendly income generating activities. Although this study alludes to the need to recognise comparative advantages of the respective life cycle stages when providing social support, a policy framework to be put into place would need to be alive to the detrimental effects some comparative advantages can potentially pose. Such include the use of unpaid own child labour which seem to advantage the intermediate life cycle stage in undertaking livelihood activities that need more hands. Such undertakings imply exclusion of the children from school, thereby compromising their future life chances and effectively laying a fertile ground for a vicious cycle of poverty that would be transferred from one generation to the other.

Notwithstanding all the elucidations, this study specifically targeted households in spousal relationships. Experiences and perceptions of poverty in the eyes of child headed and female headed households were thus not captured and their aspects could have given a more comprehensive picture of the poverty situation. In addition, the study did not use actual time series data to closely look at the dynamic changes in poverty experiences within the domestic life cycle stages, and consequently has not been able to demonstrate the step by step movements out of poverty for the different domestic life cycle stages.

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