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FOOD SECURITY RESEARCH PROJECT

Dynamic Pathways into and out of Poverty: A Case of Small Holder Farmers in Zambia

by

**Diana J. Banda, Priscilla Hamukwala,
Steven Haggblade, and Antony Chapoto**

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EXECUTIVE SUMMARY

The study surveyed 127 households from Central, Eastern, Luapula, Northern, and Southern Provinces of Zambia. The primary objective was to explore life-trajectory patterns and key drivers of welfare change. Households were classified based on long term poverty dynamics i.e., how they perceived their welfare compared to that of their parents with the major focus being on households that were better off (BO) than both the parents (parents of head and spouse) and those that were worse off (WO) than both parents were. Poverty was mainly defined from the communities' own perspectives and entailed exploring reasons perceived by participants for decline or improvement in people's well-being in their communities. The hypotheses that factors such as household endowments, key decisions made, household location, and shocks experienced by households have an impact on household's welfare dynamics were tested. Several approaches were used including semi-structured interviews at household level and Focus Group Discussions (FGDs).

Human capital, membership to associations/clubs and all other networks, investments made, income diversification, gender implications, being located to good infrastructural facilities, and shocks experienced contributed to the welfare of rural households. Generally, the BO households attained more education (6 years), were members of farmer associations, invested in productive assets diversified into meaningful income sources, came from communities located closer to good infrastructural facilities, and due to having good asset endowments and diversified off-farm activities, demonstrated the capacity to cope with negative shocks. The worse off (WO) households on the other hand had limited education (4.78 years) with assets acquired more as gifts and inheritance, depended more on petty trading, and were negatively impacted by shocks experienced as they had limited options to cope with negative events. Due to low education levels and problematic inheritance systems practiced, female-headed households were less likely to accumulate assets. Farming constitutes a main economic activity in rural areas along with income diversification into non-farm activities. However, the BO households engaged into meaningful business activities while the WO households were more into subsistence farming and focused more on petty trading activities.

The study concluded that there were a number of prominent causes of decline and improvement. Having endowments, an investment mind, hard work, choice of high return economic activities, access to good infrastructure, participating in formal organizations, and engaging in off-farm activities, all led to improvement in welfare. Decline into poverty was associated with not being well-endowed, practicing low return and subsistent income generating activities that led to vulnerability and less resilience to negative shocks. Thus, it is recommended that there is a need to revamp the emphasis for a better education for people, and have client tailored training activities. As a means of accessing training and other resources, cooperatives and farmer groups should be strengthened and new ones formed in communities. Efforts aimed at promoting diversified income generating activities, along with entrepreneurship should be promoted. Gender poverty programs should be enhanced to promote gender equity in the distribution of assets. In addition, infrastructure development and programs aimed at mitigating shocks should continue to receive top priority towards poverty reduction.

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ACRONYMS

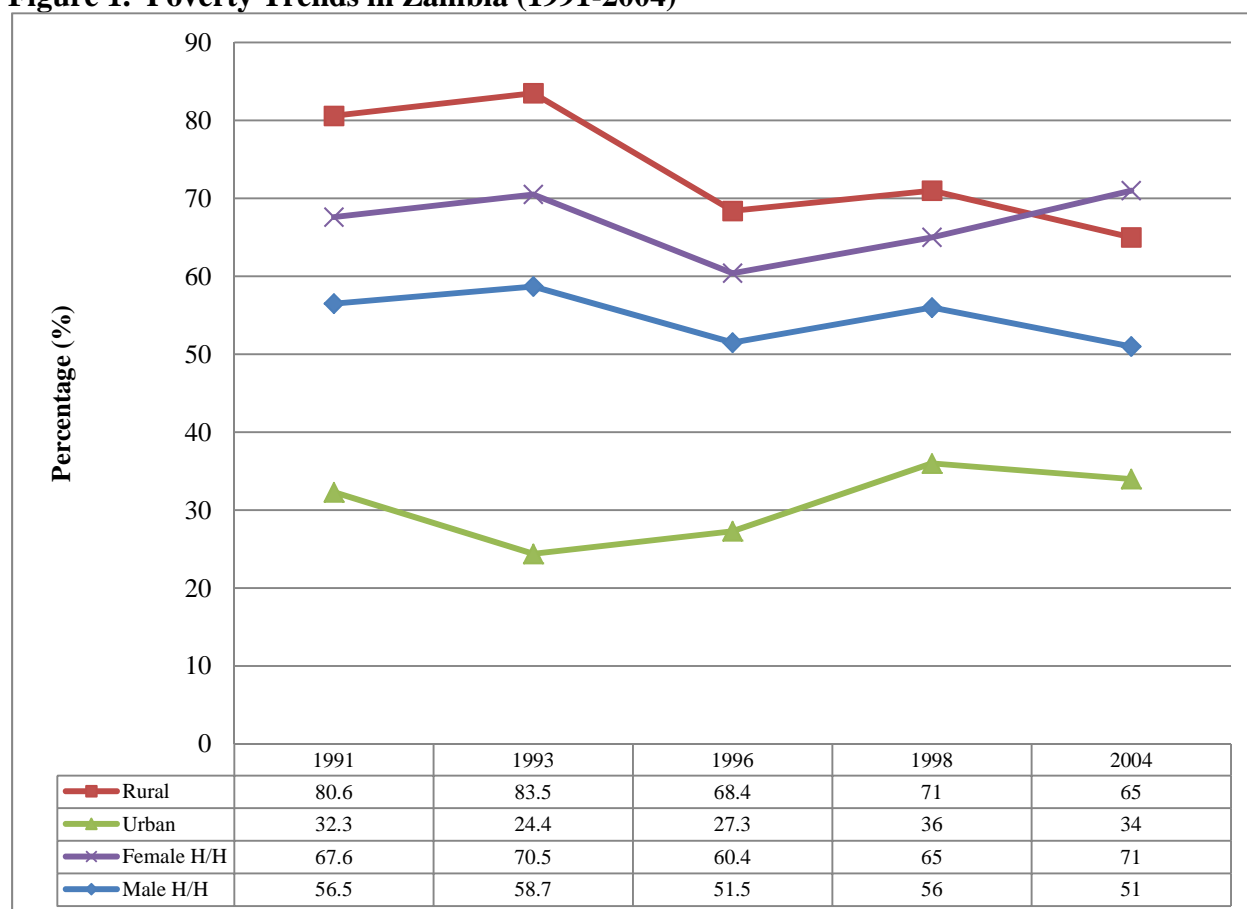
ADB	Asian Development Bank
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CSO	Central Statistic Office
FGDs	Focus Group Discussions
FSRP	Zambia Food Security Research Project
ILRI	International Livestock Research Institute
MDG	Millennium Development Goal
MSU	Michigan State University
PRSP	Poverty Reduction Strategy Paper
SADC	Southern African Development Community
UNFPA	United Nations Population Fund

1. INTRODUCTION

Like all other developing countries, Zambia is characterized among other factors as having low income, low education attainment, and vulnerability to external shocks. The country also continues to experience persistent poverty with 64% of the population living below the poverty level according to the 2006 living conditions monitoring survey (CSO 2006). Generally, higher incidences of poverty exist in rural compared to urban areas. Poverty in this context is understood to be a multi-dimensional concept that not only describes inadequacy of income or consumption but also of several other non-monetary variables like deprivation of good health, knowledge, good nutrition, access to basic social services, and food security, among others. There has been, however, a reduction in rural poverty compared to an increase observed in urban areas. Data from the Central Statistic Office (CSO 2005) indicate that the incidence of poverty in rural areas reduced from 80.6% in 1991 to 65% in 2004. In comparison, the incidence of poverty in urban areas has been shown to increase from 32.3% in 1991 to 34% in 2004. See Figure 1.

Poverty levels among female-headed households tend to be higher than that of the male-headed households. Compared to male-headed households, the poverty levels among female-headed households were higher in the period 1991 to 2004 where poverty increased from 67.6% in 1991 to 70.5% in 1993, it declined to 60.4% in 1996 and peaked to 71% in 2004. Male-headed households' poverty levels were shown to have fluctuated from 56.5% in 1991 to 51% in 2004.

Figure 1. Poverty Trends in Zambia (1991-2004)



Source: Kalinda 2008; CSO 2005.

However, there have been some efforts made to mitigate these challenges. For instance, between 2000 and 2004, the government through the Poverty Reduction Strategy Paper (PRSP) attempted to reduce poverty and garner economic growth with all sectors of the economy expected to design and implement programs aimed at making a significant contribution to poverty reduction and economic growth. The National Transition Development Plan, which emphasizes high economic growth and the Millennium Development Goal (MDG) with the target of reducing extreme poverty by half by 2015 are two of those attempts.

This study is aimed at understanding households' pathways into and out of poverty, with poverty defined from both the communities' own perspective and poverty indicators such as household welfare (asset holdings).

2. LITERATURE REVIEW AND KEY HYPOTHESES

Land, human capital, household size and other demographic features, social capital, and physical assets constitute major drivers of welfare changes overtime that also enable households to exit from poverty.

With land resource, the size and quality helps determine both the crop and technology choices and to some extent determine the potential of producing marketable surplus. Hence, households without any access to land get to be excluded from the farming as a pathway out of poverty. Clearly, land and livestock constituted significantly better endowments for especially rural households. While it has been argued that escape from poverty directly through agricultural productivity growth by households in the bottom per capita land quartile usually is limited by their constrained access to land and other resources, a positive association between landholding size and per capita income in several African countries was made, and the importance of the initial distribution of assets to the rate of economic growth and poverty reduction efforts acknowledged (ADB 2009; Krishna et al. 2006; Krishna et al. 2004; and Jayne et al. 2006). Included are physical (housing and equipment) and financial assets (remittances, savings, pensions, credit) that provide ways out of poverty (ADB 2009; and Chimhowu, Piesse, and Pinder 2003).

Several authors (McCulloch, Timmer, and Weisbrod 2007; Pender 2004¹; Jansen, Siegel, and Pichon 2005) have identified human capital as generally having the largest impact on poverty exit. Secondary education level especially leads to employment and better paying jobs. Education is a most effective route for exiting poverty, not only for enabling people to participate in higher productivity activities but also in raising the probability of them being able to make sectoral and locational changes that provide access to the other pathways out of poverty. An increase in average years of schooling and improving the level of schooling of parents' education has been shown to have a great impact on average living standards and reduces poverty level (UNFPA 2011).

The education levels of household members, age, household size and gender of the household head at household level, have all been associated with an escape from poverty. Household size and composition in particular have significant negative effect on consumption per capita meaning that an extra child reduced per capita consumption. The absorption of an extra household member was also shown to exert pressure on a family's expenditure with a potential to compel households to find non-farm work. Age has been shown to be positively linked to self-employment among all age groups while marital status has an effect on participation in rural non-farm sectors in that if one were married their chances of employment in off-farm employment would be reduced. By implication, a reasonably large number of people within employable age groups are concentrated within the informal sector where they may be subjected to low wage employment, a condition that limits their chance of moving out of poverty. While the non-farm sector has been shown to contribute to income diversification and an equally important route for moving out of poverty, married women are, in this case, being discriminated against in all efforts of generating incomes.

Gender of household head was related to poverty status with female-headed households shown to have remained comparatively poorer than male-headed households (Bigsten and Tengstam 2008; Conguara 2008; Gamba and Maghenyi 2004; Jayne et al. 2003; and Ashby

¹ Cited in Ruben 2005.

1999). Male-headed households were also shown to be more likely to have moved out of poverty than the female-headed households were. It was further revealed that being a female-headed household had a significantly negative effect on household living standards. Unlike ethnic grouping, the lack of employment opportunities was attributed to as a major cause for the widening welfare gaps among households. However, the Peruvian study by Glewwe and Hall (1998) found that female-headed households were not vulnerable to shocks due to large kinship, neighborhood, and ethnicity networks. Such networks were reported to have provided a locus of insurance and thus, a way of overcoming those problems. The Colletta and Cullen (2000) studies in Cambodia and Rwanda also found that social ties and cultural traditions provided the poor with a significant coping mechanism to deal with poverty. However, Grant and Shillito (2002) caution that local traditions and community supports are breaking down in response to changes in social life, material prosperity, and shifting gender roles and responsibilities.

Community characteristics such as roads, post office, markets, and public transportation have also been shown to have an effect on off-farm activities. The closer one was to these, the more likely they would engage in off farm activities and participate in agricultural marketing. Similarly, the existing social, economic, and institutional environment plays a greater role in the way resources are accessed through ownership or renting. Location also matters. Kalinda (2008) concludes that the main drivers of rural poverty include remoteness, distance from services and markets and poor infrastructure. A given location's vulnerability to droughts, floods, animal and human diseases also affects agricultural productivity and hence poverty trajectories.

Informal memberships and informal networks/organizations are important forms of social capital, as they determine the access to input and output markets, insurance, trust in transactions, and influence over decisions especially among rural people. Membership in such organizations' or social networks also fosters technology adoption through social learning. Thus, exclusion from such networks can severely limit their choices with the poorest most likely to be excluded (Maluccio 2000). According to the World Development Report (2008), producer organizations have been identified as an important source of social capital. The study further indicated that women more often than men are excluded from such formal networks due to cultural norm. During their World Bank study in Bolivia, Burkina Faso, and Indonesia, Sandoval et al. (1998) and Grootaert (2001) demonstrated that local-level institutions or associations (a manifestation of social capital) influence the ability to accumulate assets, obtain credit, and organize collective action all of which have an impact on household poverty and welfare.

Social relationships, according to Grootaert et al. (2004) acts as a means through which individuals, households, or small groups secure (or are denied) access to resources with those in strategic positions said to have *more* social capital than others. Such networks give them better access to and control over valued resources. A different school of thought sees community as the unit of analysis of social capital that focuses on the nature and extent of crosscutting ties, together with people's involvement in informal networks and formal civic organizations. Thus, the approach emphasis is on the ways in which community members interact and collaborate, particularly on issues of shared concern (Woolcock 2003). The kinship ties and power relationships including institutional and governance factors within a clan explains disparities in land and settlement in a particular area (Gebre-Madhin 2001; Marrule 1998; and Fafchamps 1992).

Literature has also shown there are diverse, common and multiple decisions or potential pathways that rural households make to move into and out of poverty. These include formal or informal employment, crop and livestock production, temporary or permanent migration, off-farm employment, collecting products from forests or lakes, food processing, or trading. Agriculture has been shown to be both a main stay economy and pathway out of poverty for many rural households (McCulloch, Timmer, and Weisbrod 2007; Chambers 1991). Individual households decide to engage in formal or informal employment. Formal employment was based on one being educated and, thereby, being able to become a wage earner, while informal employment involved being hired by wealthy farmers. Rural-urban migration occurs at a time of scarcity to complement household incomes. Such migration can be temporary or permanent and those who migrate are often the young and better educated who send remittances to their former households. Diversification through agriculture and off-farm activities also plays a significant role in exiting from poverty (ADB 2009; Conguara 2008; Krishna et al. 2006; Krishna et al. 2004; Davis and Stampin 2002). Agricultural diversification involves following market oriented agricultural activities such as growing cash crops for sale as well as growing a combination of food crops, keeping livestock, and fish farming. Income diversification involves running small businesses, having some household members being employed off the farm, or working in a city in the formal or informal sector, and trading i.e., buying and selling of goods.

Shocks mainly cause a downward mobility. In this instance principle shocks have been identified to be personal losses (such as illness, death), income shocks, and risk of unforeseen events (such as drought, floods, climate change) as were observed by Kristjanson et al. 2009; Quisumbing 2007; Ruben 2005. All of these have negative effects especially on the welfare of poor households. Shocks may include:

- social community relations such as loss of trust among community members that ultimately bring about conflicts;
- the failures of input and output markets for agricultural goods and services that adversely affects ways in which poor farmers receive information and market participation;
- the availability of insurance and financial services; and
- the endorsement of contracts.

Based on these literature reviews, this study generated the following hypotheses that primarily focused on endowments, key household decisions made, and shocks experienced. These three sets of factors govern changes in household welfare over time. First are a set of endowments — assets, personal characteristics and social endowments — over which a given individual has no control. Second are decisions made by household members in response to opportunities and constraints they faced. Key decisions affecting their welfare relate to their location, and investment choices in human, physical, and social capital. Finally, a set of external environmental factors can affect family options and outcomes. These include community characteristics as well as unanticipated negative shocks such as disease and drought. These forces, together, give rise to the following set of testable hypotheses (H1-H4).

2.1. Endowments

2.1.1. H1: Initial Endowments Contribute Positively to Welfare and Households' Ability to Absorb Negative Shocks and to Profit from Favorable Opportunities.

- a) Human capital in form of parents' education and education of head has an effect on general welfare of households;

- b) Productive assets in form of land and livestock contribute positively to household welfare improvement;
- c) Social capital has a positive effect on household's welfare;
- d) Parents' decision to migrate has an effect on households welfare; and
- e) Gender: Females and female-headed households are less likely to be upward mobile than male-headed households;
 - i. Female-headed households are more likely to be poor due to labor shortages, and
 - ii. Female-headed households are more likely to be vulnerable to loss of assets upon the demise of their spouse through inheritance and upon divorce/ abandonment.

2.2. Key Decisions

2.2.1. H2: Key Decisions Made by Households are More Likely to Affect Transition into and out of Poverty.

- a) Investment in productive assets such as land and livestock contribute to household's welfare improvement;
- b) Investment in children's education has a positive effect on household welfare; and
- c) Choice of economic activities has an effect on household's welfare.

2.3. Location

2.3.1. H3. Spatial Impact: Poor Households Living in Close Proximity to Good Roads and Urban Markets Are Most Likely to Specialize in Production of High Value Agricultural Products such as Horticulture, Rather than Food Staples. In Contrast, Remote Locations Promote Downward Mobility.

2.4. Shocks

2.4.1. H4. Negative Shocks Are More Likely to Promote Downward Mobility into Poverty.

- a) Agricultural shocks increased household's vulnerability to falling into poverty; and
- b) Health related shocks render households vulnerable to labor constraints and thereby induce household's downward mobility into poverty.

3. METHODOLOGY

3.1. Study Sites

The study was carried out in Central, Eastern, Luapula, Northern, and Southern Provinces covering two of the three agro-ecological zones of Zambia. The study was designed to collect the qualitative information on poverty dynamics by revisiting a sub-sample of households that had been included in a detailed nation-wide farm household survey conducted by Zambia's Central Statistical Office (CSO) in 2001, 2004, and 2008. A total of six districts (i.e., Kawambwa and Mpika in agro- ecological region III, while the rest Monze, Katete, Mumbwa, and Serenje in region II). A total of 127 households were successfully surveyed and used in data analysis.

Table 1 shows the characteristics of the surveyed areas by agro-ecological zone and by district. The average amount of land size owned was larger in Region III (19.6 ha) compared to region II (12.3 ha), with Mpika District having the largest average amount of land cultivated (50.8), and Kawambwa with the least average amount of land cultivated (3.2 ha). Household size full time equivalents were larger in region II (7.48) compared to region III (5.92). Cattle ownership was more popular in region II compared to Region III which had none, averaging 10 head of cattle with Monze District having recorded the highest average number of cattle owned (14). Higher average net incomes were also observed in region II with K6, 110,169.31 compared to Region III with only K2, 601,141.09. Of the surveyed districts, Mumbwa has been shown to have the highest average net income of K9, 443,147.82 while Kawambwa recorded the least average annual net income of K1744925.17 in 2008.

The selection of a sub-sample of households was drawn from four poverty categories developed from the panel data using income on one hand and asset value on the other hand as measures. The categories that were designed to understand poverty transitions in these measures were; consistently poor, consistently non-poor, downward mobile, upward mobile and other to include those that could not easily fall into any of these groups. Table 2 shows the breakdown of households of original poverty classification by self-ranked poverty across the full surveyed sample.

Table 1. Characteristics of Surveyed Area by Agro-ecological Zone/District

	Agro-zones		Districts					
	Region II	Region III	Mumbwa	Serenje	Katete	Kawambwa	Mpika	Monze
MeanLand Area Cultivated (ha) 2010	12.3	19.6	10.3	21.4	7.5	3.2	50.8	11.9
Mean HH size Full time equivalents in 2008	7.48	5.92	7.42	5.35	6.98	5.60	6.38	9.20
Mean HH net income in 2008 (ZMK)	6,110,169.31	2,601,141.09	9,443,147.82	3,377,695.82	5,918,940.99	1,744,925.17	3,856,924.43	5,839,951.18
Sample size	90	37	20	20	19	22	15	31
Mean No. of Cattle Owned 2010	10	0	13	0	6	0	0	14

Source: Authors' Field Survey 2010; CSO/FSRP Panel Data 2001-2008.

Table 2. Poverty Dynamics: Panel Vs Perceptions

	Net Income poverty dynamics from Panel Surveys					Total	Productive assets poverty dynamics from Panel Surveys					Total
Household self-classification from 2010 field survey	Consistently poor	Consistently non poor	Downward mobile	Upward mobile	All Other		Consistently poor	Consistently non-Poor	Downward mobile	Upward mobile	All other	
Improved	8	15	3	2	47	75	3	29	3	0	40	75
	10.7%	20.0%	4.0%	2.6%	62.7%	100.0%	4.0%	38.7%	4.0%	.0%	53.3%	100.0%
	57.1%	65.2%	30.0%	50.0%	61.8%	59.1%	75.0%	59.2%	60.0%	.0%	61.5%	59.1%
Declined	5	4	3	1	17	30	1	9	1	1	18	30
	16.7%	13.3%	10.0%	3.3%	56.7%	100.0%	3.3%	30.0%	3.3%	3.3%	60.1%	100.0%
	35.7%	17.4%	30.0%	25.0%	22.4%	23.6%	25.0%	18.4%	20.0%	25.0%	27.7%	23.6%
Same	1	4	4	1	12	22	0	11	1	3	7	22
	4.5%	18.2%	18.2%	4.5%	54.6%	100.0%	.0%	50.0%	4.5%	13.7%	31.8%	100.0%
	7.2%	17.4%	40.0%	25.0%	15.8%	17.3%	.0%	22.4%	20.0%	75.0%	10.8%	17.3%
Total	14	23	10	4	76	127	4	49	5	4	65	127
	11.0%	18.1%	7.9%	3.1%	59.8%	100.0%	3.1%	38.6%	3.9%	3.2%	51.2%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: Authors' Field Survey 2010; CSO/FSRP Panel Survey 2001-2008.

In the course of our field work, we discovered that this initial classification of households did not tally well with the household perceived poverty status in 2010. For instance, while the panel data indicated there were 14 households that were consistently poor using income classification, the 2010 survey showed that 57.1% of these had improved and 35.7% with 7.1% having remained the same. With the productive assets as a measure, the scenario was the same. Those classified as consistently poor, were in the survey found to have either improved (75%) or declined (25%).

This inconsistency can arise for several reasons. First is the volatile nature of these measures. In rain-fed agriculture, income in particular varies widely from one year to the next. In fact, about two-thirds of the households from the panel data did not fit readily into any clear classification categories (consistently poor, consistently non-poor, downward mobile, upward mobile) because the value of their assets and income tended to fluctuate up and down over the panel period. Given this volatility, welfare in 2010 could easily differ from that measured between 2001 and 2008. Because of this disparity, the trend as observed in the panel may have changed. Indeed, many of the households we interviewed thought their situation had changed by the 2010 interview.

Secondly, households' self-assessments included more subjective criteria in addition to the more quantitative measures such as income and assets. Though assets and income were important poverty measures, households also considered more qualitative indicators such as food security and social status as welfare indicators. Finally, possible data entry errors could have led us to interview also the outliers. In the end, these inconsistencies led us to use as our welfare measure the households' own perception of progress in welfare compared to their parents. By adopting this long-term, inter-generational perspective, we avoid the potentially misleading short-term volatility common in rain-fed agricultural economies and focus instead on drivers of long-term welfare trajectories.

3.2. Methods of Data Collection

To capture the welfare dynamics among smallholder farmers several approaches were used. First, primary data were collected by employing semi-structured interviews at household level. At the household level, respondents were stratified into BO than both parents and WO than both parents. Households were engaged in an in-depth interview that combined own welfare and wealth perceptions, parents' characteristics, life history accounts, key decisions made, value attributed to livelihood assets, and access to social organizations. The primary objective was to explain what poverty/welfare was, who attempts to get out of it and how, who succeeds, who fails and why, and whether parents' welfare status had an implication on their children later on in the future. Secondly, Focus Group Discussions (FGDs) were held in communities with assistance from extension officers, headmen, community leaders, and in some instances civic leaders (councilors) as key participants. Among the key issues that were discussed were what the people defined as poverty, who in their view was poor, who were rich among them, and various ranking and measures about poverty used in their communities. In addition, factors that were likely to cause people to move into and out of poverty were discussed; this included access to community resource endowments (that included natural, physical, human, and social capital), shocks experienced, and social vices in the communities. Due to the sparse population and settlements that created long distances between households, coupled with the lack of extension officers to mobilize participants, it was difficult to gather people for FGDs in Serenje and Kawambwa within the study period.

4. RESULTS

The following are findings on the life histories of smallholder households in Zambia that help explain changes in their welfare and poverty status over time.

4.1. Household Characteristics

With regards to general characteristics of households the survey showed there were more households (46) that became worse off in welfare compared to both parents (parents of head and spouse) than those that became better off (29). On average, the WO households (46.98 years) were also found to be older than the BO households were (44.31 years). In terms of family sizes, the better off (8.55 members) than the WO households (7.7 members) had larger family sizes. Pertaining to endowments involving income, education, land and cattle, the BO households had more of these. On average, the BO households were shown to have an income of K1, 962,258.31, attained an education level of 6.14 years, and owned 22.6 hectares of land as well as 12 head of cattle. The WO households on the other hand, had lesser endowments with K 1, 702,022.24 annual net incomes, 4.78 years of education, 13.8 hectares of land owned, and seven head of cattle.

Findings on food security were that majority of the WO households were net buyer food producers (45.7%) compared to the better off, majority of whom were mainly autarkic (34.5%) and net food producers (34.5%).

With regard to dwelling index², an average BO household had a dwelling index of 1 (or 33.3% modern) while that from the worse off had a dwelling index of 0.72 (or 24% modern) indicating that the BO households were those that were closer to owning a modern housing structure. Nucleated settlements were common in both households' welfare categories with the WO households being the majority living in such settlements (see Table 3).

4.2. Keys Welfare Drivers

Endowments in form of human capital, household assets, social capital, migration of parents and gender implications including key decisions made by households, location, and shocks are among the key drivers of change in welfare for the BO households and the WO households in rural areas.

4.2.1. Endowments

Hypothesis 1.1. Human Capital in Form of Parents' Education and Education of Head Has an Effect on General Welfare of Households. The need for education in society cannot be over-emphasized particularly so in rural society where education influences farmer's attitudes

¹A dwelling index is a status symbol and represents the household's ability to construct and own modern housing. It is a measure of wealth as well as a status symbol. It was computed as the sum of three dummy variables for the various components/attributes of the main house, each of which is equal to 1 if modern and zero otherwise. The house attributes considered include: i) roofing material, ii) wall material, and iii) floor material. Thus, the dwelling index is equal to zero if the main farm house is fully traditional and equal to 3 if it is fully modern.

Table 3. Household Characteristics

Household Characteristics	HH Welfare compared to parents	
	BO than both Parents (n=29)	WO than both Parents (n=46)
Age of household head 2001	44.31	46.98
HH size (not weighted) in 2001	8.55	7.70
Mean number of years of Education in 2001	6.14	4.78
Mean Annual Net Income in 2001 in ZMK	1, 962,258.31	1, 702,022.24
Mean Land size owned in hectares 2010	22.6	13.8
Mean No. of cattle owned in 2010	12	7
Dwelling type	1.00	.72
Food security status	Autarkic	34.5%
	Net seller	27.6%
	Net buyer (producers)	34.5%
	Net buyer (no food production)	3.4%
Settlement pattern	Compound	34.5%
	Nucleated	62.1%
	Others	3.4%

Sources: Authors' Field Survey 2010; CSO/FSRP Panel Survey 2001-2008.

and abilities. Human capital of households and parents has in this case proved to be a major characteristic that made a difference in household welfare. Generally, this study has established that the educational levels among rural households are still low. While parents displayed positive attitudes towards educating both male and female children and several of the households attested to their parents having invested in their education, according to key informants and FGDs educational institutions in rural areas continue to be limited in terms of both numbers and access. Limited access, the generally low and poor infrastructure, and the long distances walked to facilities were identified as major constraints experienced in all surveyed communities.

Nonetheless, the study found that the education attainment of the household head of the BO households was generally higher (6 years) compared to the WO households (4.78 years). According to FGD findings, such educational attainments (especially in the case of the better educated household heads) have in terms of farming not only translated into them having more knowledge of alternative enterprises and techniques than their uneducated neighbor, but it has also led to them having more confidence in their own judgment thereby, feeling less need of approval by others. Thus, it is frequently found that better educated farmers are more concerned with profit making, more willing to take risks and better able to take decisions than those with less education. It follows, therefore, that the better educated among the households that were BO than both parents meant that they acquired farming skills and were able to use more improved technologies in their farming practices that led to producing more marketable farm products than would have been the case with subsistence farming, associated to their parents. This finding confirms what McCulloch, Timmer, and Weisbrod (2007) observed when they stated that education enables people to participate in higher productivity activities and raises the probability of them being able to make both sectoral and locational changes that provide access to the other pathways out of poverty.

Except for the father of the head of the BO households (41.4%) who were fewer in terms of having attained primary education when compared to the father of the head of the WO households (43.5%), more of the remaining parents of the better off were shown to have attained primary education compared to the parents of the WO households. The results further showed that 23.9% of the mother of head, 30.4% of the father of the spouse, and 19.6% of the mother of the spouse among the households from the worse off had attained

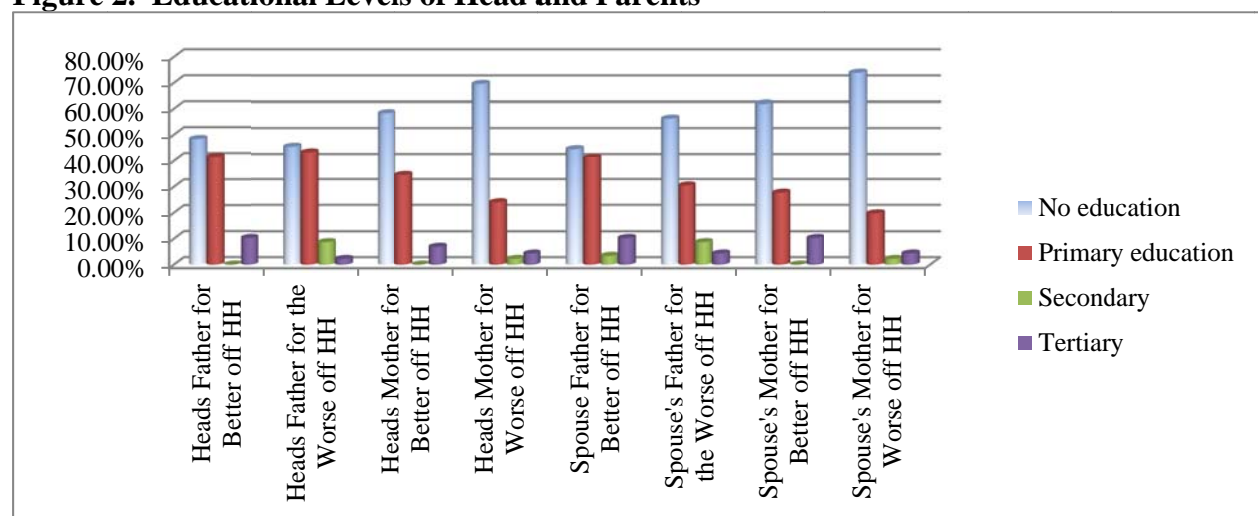
primary education. While for the BO households, mother of the head, father of the spouse and mother of the spouse accounted for 34.5%, 41.4%, and 27.6%, respectively. A similar observation with regard to the attainment of tertiary education level showed that the parents of the BO households were more of those that obtained a tertiary level education than those from the worse off. With an exception of the mother of the head that accounted for 6.9%, the father of the head and both father and mother of the spouse each accounted for 10.3%. Except for the father of the head that accounted for 2.2%, the rest of the parents accounted for 4.3% that obtained tertiary education (see Figure 2).

Generally, both the mother of head and spouse were shown to have much lower educational levels than that of their spouses i.e., the father of both head and spouse. More of the mothers for the BO households also had tertiary education compared to that of the mother for the WO households. Implying that educated women were more likely than the less educated to ensure that their household welfare is taken care of and that their children are encouraged to attend formal education. The United Nations Population Fund (UNFPA) attests to the importance of women's education in as far as it allows them gain greater influence in household negotiations that help secure resources including securing the education attainment of their children. While literature states the importance of mother's education, FGDs and general observations in surveyed communities revealed married women in rural areas in particular experienced some limitations with regard to household negotiations too often women suggestions tended to be overruled. For instance, it was reported in FGDs that educated women were upon getting married, generally stopped from pursuing other livelihood alternatives and were thus, completely relegated more to child caring and other gender household chores. A married farmer in Monze reported that:

"I am educated but my husband stopped me from seeking employment. So am just at home taking care of my husband and children".

Despite a majority of parents not having had formal education, their perception towards formal education of their children was found to be positive. More parents of the head among the BO households considered formal education to be important than those of the WO households. Given this positive perception, it was, thereby, making it much easier to ensure children received an education.

Figure 2. Educational Levels of Head and Parents



Source: Authors' Field Survey 2010.

Hypothesis 1.2. Productive Assets in the Form of Land and Livestock Contribute Positively to Household Welfare Improvement. At establishment, BO households began with more inherited land (4.82 ha) and livestock (6 head of cattle) compared to the WO households that had 4.33 ha of land and 5 head of cattle. The study also revealed that those who had more assets at household establishment also tended to have more assets at present. The BO households had 12 head of cattle and 22.6 ha on average compared to 13.8 ha of land and 7 head of cattle for the worse of households (see Table 4). This implies that it is the households of the better off that had more assets then and now.

The main sources of assets for both the BO and the WO households were mainly through inheritance and gifts at establishment. The BO households constituted the majority (76.5%) that accessed land through inheritance compared to the WO households that equally accessed land through inheritance (47.1%). The majority that obtained land as a gift were WO households (47.1%) rather than the BO households (17.6%). With regards to cattle, more of the BO households (37.5%) inherited cattle than the WO households (25%). Purchasing was also identified as another source through which cattle were acquired. The WO households (43.8%) were shown to have purchased more compared to the BO households (25%). In addition, more WO households (31.2%) were also shown to have received cattle as a gift than the BO households (12.5%) have. Only the BO households (12.5%) were shown to have initially acquired cattle through bride price (See Table 5).

According to FGDs and life histories, inheritance in all surveyed communities constituted the main means of accumulating wealth and formed a foundation base for asset accumulation. In all surveyed communities, the matrilineal type of inheritance (i.e., transference of assets from uncles to nephews including the extended families on the mothers' side) was commonly practiced in all surveyed communities; with the WO households (50%), constituting a majority of those that practiced such an inheritance system than the BO households (48%). Such an inheritance system entailed the handing over of assets mainly land and livestock to surviving children (preferably adult males) and relatives within the matrilineal lineage upon the demise of a parent especially a household head. In contrast, the patrilineal system of inheritance is based on the transference of inherited assets from fathers to sons, though none of the surveyed communities indicated practicing this type of an inheritance system.

Table 4. Mean Quantity of Assets Owned Currently and at Establishment

Type of Assets Owned		Household Welfare Compared to Both Parents	
		BO than Both Parents	WO than Both Parents
Land (ha)	Start	4.82	4.33
	Now	22.6	13.8
House	Start	1	1
	Now	2	3
Cattle	Start	6	5
	Now	12	7
Goats	Start	4	5
	Now	10	3
Pigs	Start	22	2
	Now	1	2
Oxcarts	Start	0	1
	Now	1	1
Ploughs	Start	1	1
	Now	0	1

Source: Authors' Field Survey 2010.

Table 5. Source of Assets at Establishment

Type of Asset	Initial Source	HH Welfare compared to both parents	
		BO	WO than both parents
Land	Inherit	76.5%	47.1%
	Purchased	.0%	2.9%
	Gift	17.6%	47.1%
	Others	5.9%	2.9%
	Total	100.0%	100.0%
Houses	Inherit	14.3%	15.0%
	Purchased	.0%	7.5%
	Built	85.7%	77.5%
	Total	100.0%	100.0%
Cattle	Inherit	37.5%	25.0%
	Purchased	25.0%	43.8%
	Bride Price	12.5%	.0%
	Gift	12.5%	31.2%
	Others	12.5%	.0%
	Total	100.0%	100.0%

Source: Authors' Field Survey 2010.

By leaving assets to be inherited, parents endowments helped directly by contributing towards their children's wealth creation. Thus, if parents had good assets children were able to have a firm base to start with. For community people whose parents did not leave an inheritance, the common means to owning assets was through purchases. Gifts in this regard were commonly given while parents lived.

In addition, this study showed that over time both the better-and worse-off households had accumulated assets in various ways namely, through investments, inheritance, and gifts. The BO households (19%) invested in land while the worse off did not. More of the BO households (55.6%) than the WO households (30%) had also invested in cattle. With inheritance, more of the BO households (33.3%) inherited land compared to the WO households (27.3%). In addition, more of the BO households (11.1%) inherited cattle than the worse off (10%). More of the WO households (48.5%) than the BO households (28.6%) constituted those that obtained land as a gift. Likewise, the WO households accumulated cattle through gifts (5%). In this manner, more of the WO accumulated wealth through gifts and inheritance while the BO made investments (see Table 6).

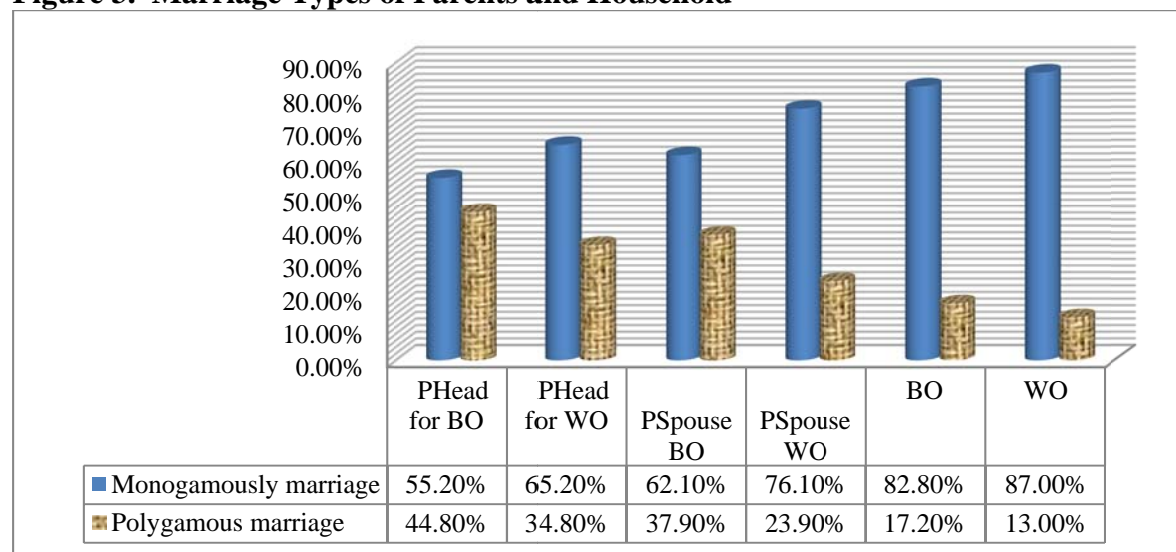
Therefore, this implies that there is more of an investment mind among the BO households, which enabled them to acquire more assets in addition to those left to them by their parents and were, thus, better able to cope with negative shocks experienced. The WO households seemed not to have done much with regard to improving their welfare.

Though monogamy and polygamous marriages were practiced in surveyed communities, polygamous marriages were identified to have an influence on how assets got to be accumulated and distributed. The household survey showed that parents of head and spouse from the BO households accounted for 44.8% and 37.9%, respectively while, the parents of head and spouse for the WO households accounted for 34.8% and 23.9%, respectively that were in polygamous marriages (See Figure 3 below). Both the BO households and their parents were more of those that practiced polygamous marriages than the WO households and their parents. During FGDs and from life histories it was reported that in terms of inheritance, polygamy led to a reduction on the amount and quality of assets distributed among the many beneficiaries and tended to affect the initial asset base of the many beneficiaries.

Table 6. Assets Accumulation over Time

Type of Asset	How Assets have been Accumulated/ Lost	HH Welfare Compared to Both Parents	
		BO	WO
Land	Investment	19.0%	.0%
	Inherited	33.3%	27.3%
	Gift	28.7%	48.5%
	Property Grabbing	19.0%	.0%
	Other	.0%	24.2%
	Total	100%	100%
Houses	Investment	16.7%	33.3%
	Inherited	.0%	3.7%
	Property Grabbing	66.7%	48.2%
	Other	16.6%	14.8%
	Total	100%	100%
Cattle	Investment	55.6%	30.0%
	Inherited	11.1%	10.0%
	Gift	.0%	5.0%
	Theft	.0%	5.0%
	Death Loss	33.3%	40.0%
	Property Grabbing	.0%	10.0%
	Total	100%	100%

Source: Authors' Field Survey 2010.

Figure 3. Marriage Types of Parents and Household

Source: Authors' Field Survey 2010.

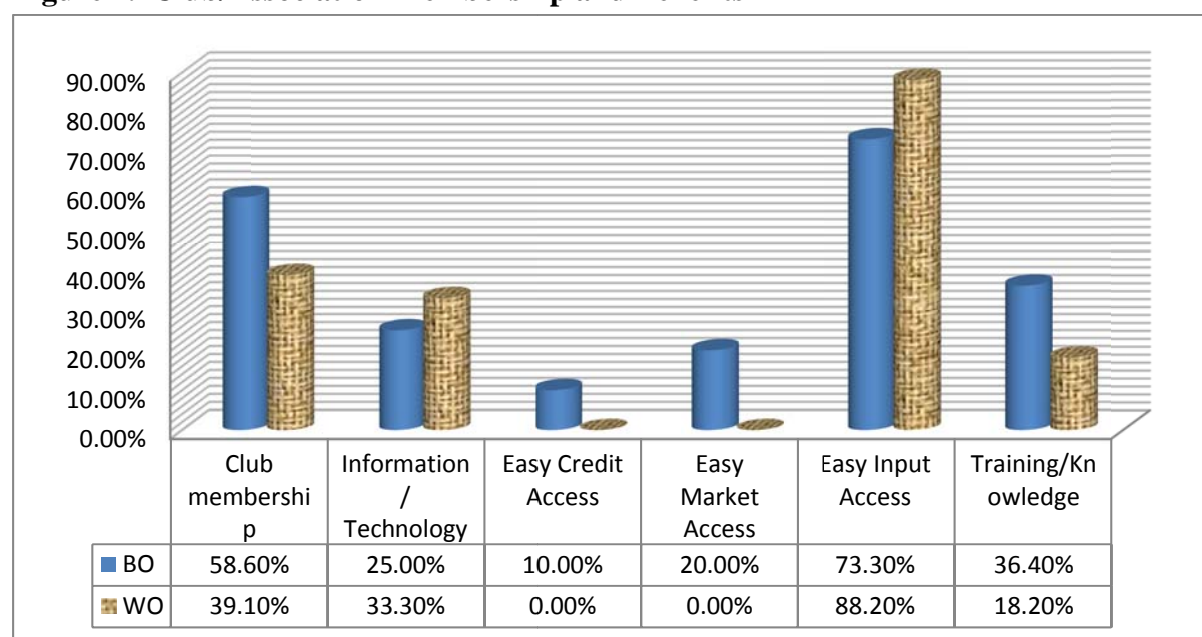
In this instance, the study acknowledges the fact that the initial distribution of assets plays an important role in accumulation of assets by those moving out of poverty through building on what is already existing as opposed to starting without any asset base. This study, therefore, is in line with findings by Dercon et al. (2008) who observed in the Ethiopian study that those who moved out of poverty had significantly better endowments in terms of land and livestock.

Hypothesis 1.3. Social Capital Has a Positive Effect on Household's Welfare Improvement.

Belonging to associations/clubs and informal social networks came out as very important forms of social capital. Survey results showed that more of the households from the BO welfare category (58.6%) belonged to associations/clubs as compared to households from the WO (39.1%). The main benefits derived by members of such associations included having easy access to credit, markets, and farm inputs, and obtaining information/technology and being trained. The BO households in this regard were the ones that benefited from easy markets and credit access accounting for 20 and 10% respectively.

The households from the WO than both parents benefited more in terms of access to farm inputs (88.2%) and needed information /technology (33.3%) compared to the households from the BO than both parents that accounted 73% that accessed farm inputs and 25% that were provided with needed information/technology. This finding implies that most poor households join associations to access inputs. The study further established that the WO households lacked the capacity to participate in training activities and had limited information on alternative technology, both of which are essential in increasing productivity. Therefore, it means the current targeting of small-scale farmers in the Fertilizer Input Support Program is at variance, as there is completely no evidence of improved welfare for most small-scale farmers. See Figure 4.

Figure 4. Club/Association Membership and Benefits



Source: Authors' Field Survey 2010.

Through FGDs, the existence of informal networks and community established works (e.g., home based care service), church, clinics activities (e.g., cleaning surroundings), weddings, food for work, and work parties including attending funerals all of which constituted factors that brought community cohesiveness was established. These established works in the absence of established formal social security system provide a main social support system within the community. Furthermore, the kinship ties of parents to the traditional leadership (i.e., Chief and village headmen) too were identified as forms of social capital whose major benefit was the difference made in one's status compared to other community members.

Reportedly, such a status allowed one to stand a greater chance of obtaining land with minimal difficulty as was evidenced by many parents reporting to have obtained massive parcels of land from the matrikins in all surveyed communities. More fathers of the head of households from the BO than both parents (50%) indicated that differences in status were a major benefit over those households from the WO than both parents (41.7%).

Thus, membership to associations/clubs and all other networks contribute positively to household welfare improvement through profiting from favorable opportunities, while community cohesiveness contributes towards households' ability to absorb negative shocks. This finding validates Grootaert et al. (2004) when they observed that social relationships acts as a means through which individuals, households, or small groups secure (or are denied) access to resources.

One particular man from Katete aged 46 years who indicated that he has benefitted from kinship ties with traditional leaders said:

"Because my father had kinship ties with the traditional leadership, I did not experience any problems with regard to acquiring land where I now live. As a matter of fact, I have a more prime land compared to community members without such kinship ties on which I cultivate. Additionally, I have been able to engage in farming and gardening. I am also a member of a cooperative society where I have been able to access farm inputs, markets and training skills through agriculture extension. All of which activities have generally led to my improved household welfare and therefore a better standing in my community".

Hypothesis 1.4. Parent's Decision to Migrate Has an Effect on a Household's Welfare.

Insignificant levels of migration occurred; a few of those parents that migrated did so in search of employment and land. More of those that migrated were from the parents of the head of the WO than both parents (28%) than the parents of the head of the BO than both parents (18.5%). According to FGDs, more of the households from Monze and Mumbwa migrated in search of land (due to climatic events such as drought) and employment. The higher education level of the parents of households from the BO than both parents helped facilitate migration when in search of employment (85.7%). Migration for more of those from the WO than both parents was due to other factors (50%) including divorce, death of spouse, and generally not fitting in the local community, as well as searching for land (25%) and employment (25%). See Table 7 below. According to FDGs, some settlers alluded to the fact that migration for jobs was more common among households from Monze and Mumbwa because of the proximity to townships like Monze, Mumbwa, and Katete.

However, according to both life histories and FGDs, migration of parents generally disrupted their children's education and, therefore, their general welfare. Furthermore, it was reported during FGDs that frequent migration caused some community members not to settle and build on their livelihoods – a situation that led them to being poorer.

Table 7. Reasons for Parents' Migration

		Welfare compared to both parents	
		BO	WO
Did Head's Parents Migrate?	Yes	18.5%	28.3%
	No	81.5%	71.7%
	Total	100.0%	100.0%
Did Spouse's Parents Migrate?	Yes	24.1%	17.4%
	No	75.9%	82.6%
	Total	100.0%	100.0%
Why parents of head migrated	Search of Land	7.1%	25.0%
	Search of Employment	85.8%	25.0%
	Other	7.1%	50.0%
	Total	100.0%	100.0%
Why parents of spouse migrated	Search of Land	.0%	12.5%
	Search of Employment	66.7%	50.0%
	Other	33.3%	37.5%
	Total	100.0%	100.0%

Source: Authors' Field Survey 2010.

Hypothesis 1.5. Females and Female-headed Households Are Less Likely to be Upwardly Mobile. Gender had an implication on households' welfare and as observed from household surveys, most households were male-headed across categories with the implication that there were less female-headed households in all surveyed communities. More of the female-headed households were WO than their parents (17.4%) and experienced a downward mobility in their welfare compared to 10.3% of the female-headed households from the BO than both parents category (see Table 8 below).

Table 8. Education, Gender, and Line of Descent of Household Head

		Welfare compared to both parents	
		BO	WO
Year of education of head in 2001	Mean	6.14	4.78
	Total N	29	46
Headship	Female	3	8
		10.3%	17.4%
	Male	26	38
		89.7%	82.6%
	Total	29	46
		100.0%	100.0%
Line of Descent	Data not collected ³	15	23
		51.7%	50.0%
	Total	29	46
		100.0%	100.0%
	Matrilineal	14	23
		48.3%	50.0%
	Patrilineal	0	0
		.0%	.0%
		100%	100%

Source: CSO/FSRP Panel Data 2001-2008.

³ Data collected by CSO and explanation for non data collection is not known.

Lack of education (which led them to early marriages), unstable marriages, and divorce were experiences that required women to return to their parents – a situation that in some cases contributed to the disruption of children’s education. These reasons contributed to the downward mobility in welfare of the female-headed households. During FGDs, it was reported that the polygamous arrangements had disadvantages of a negative effect on women, as these caused problems with regard to inheriting assets upon the demise of a household head, a factor that led to female-headed households falling into poverty in terms of having assets.

In all surveyed communities, matrilineal system of inheritance was commonly practiced. By definition, a matrilineal inheritance system requires that assets be shared among relatives from the mother’s side, particularly from uncles to nephews. Ownership of assets in these matriarchy systems therefore, is through heritage as members of a family or clan and not as individuals. Given the male dominance in inheriting assets whether in a matrilineal or patrilineal system, women were generally disadvantaged upon being widowed. There were reported cases of land grabbing among divorcees and widows according to FGDs findings and household interviews. For instance, the narration by a widow aged 48 years from Mumbwa revealed how property grabbing and subsequent loss of land and livestock assets in particular have had an effect on her general well-being.

“I was a first wife to my husband through whom I bore seven children-4 girls and 3 boys. Later in life, my husband married two other younger women where he also fathered other children. Initially, household general welfare was better as husband had a lot of animals and had earlier on being an only son in his family inherited adequate amount of land. Each one of us wives was allocated land and having been the first wife, I had a much bigger portion of land than my co-wives. As time went by, my husband got sick and eventually died. This unfortunately marked the beginning of my misery as my husband’s relatives got away with all the animals and all the land previously owned by the younger wives (who had since abandoned their fields) including grabbing a large portion of land that I owned. I now have only less a hectare of land that I share with my two surviving children and grandchildren”. This has limited my land for cultivation and resulted in my inability to produce enough crops for myself. Am now being assisted by the social welfare through the cash transfer system of the Community Welfare and Social Services to meet some of my basic needs.

At divorce, the distribution of household’s wealth was similarly problematic in all communities. It was reported that when a woman decided to get divorced, she got nothing of the household assets and wealth whilst if the man decided to divorce, it was required that assets were equitably shared between spouses. Cases of abandonment were reported in Kawambwa, particularly in the communities that were much closer to the Copper Belt where men in search of employment in mines areas had left their spouses and later did not return. Because of being abandoned, women reported experiencing labor constraints. The absence of male labor was clearly said to have negatively impacted performing tasks that women were not able to do on their own such as fishing and lopping tree branches associated with the local shifting cultivation locally known as *Chitemene* practiced on upland dry land in Mpika, Kawambwa, and Serenje Districts. Women reported experiencing a devastating impact on farming activities when left alone, especially those associated with land clearing and marketing. In Kawambwa and in the absence of male labor, women attested to being challenged with the wide spread shifting cultivation practice. Born 57 years ago, a Kawambwa widow reported facing labor constraints. The following is an account of her situation:

I was widowed more than 10 years ago and do not have children of my own. My late husband left me with a 4-hectare land but I only manage to cultivate less than quarter a hectare. The reason being that I do not have any one to assist me clear more land especially as this requires looping, stumping, and burning of bushy space including the looped branches. Though I sometimes get help to perform these operations from my siblings through their sons, this only comes when it is too late, as my sibling’s sons would have been working on their parents’ fields. My being sick has also heavily contributed to my position not changing much, therefore I am still very poor!

The importance of male labor as emphasized in this study agrees with Dercon et al. (2008) in their Ethiopian study where it was observed that male labor contributed to the upward mobility of the BO households. In addition, FGDs revealed that the heavy workloads of women contributed to their non-participation in association/clubs and thus, not being able to become members in established farmer organizations. Ultimately, this led to missing out on the benefits of belonging to farmers' groups. Given this scenario, households headed by females that have no education, no male labor and without assets are more vulnerable to poverty and, therefore, are less likely to be upwardly mobile compared to male-headed households.

4.2.2. Key Decisions Made by Households Are More Likely to Affect Transition into and out of Poverty.

Hypothesis 2.1. Investment in Productive Assets such as Land and Livestock Contribute to a Household's Welfare Improvement. Households made investments that had an impact on their welfare. The BO households invested in productive assets such as land, livestock, and farm equipment. Land and cattle were common assets invested in by the BO households and the WO households over time. The BO households accounted for more (55.6%) of those that invested in cattle compared to the WO households (30%). Only the BO households (19%) invested in land asset. Because of this investment mind, the BO households accumulated more assets and ultimately better coped with negative shocks.

In addition, FGDs and life histories revealed that households rose out of poverty due to hard work, investments made, and self-initiative to building up on assets left to them by parents. The following story by a headman aged 58 years of age from Mumbwa, illustrates his belief that investments made on land and livestock assets left by his parents have contributed towards his being consistently well off. In his own narration, he said:

"My parents left me with livestock and land. I took the initiative to invest more in livestock and increased the herd from 10 to 400. Through hard working and building up on what we inherited from parents and by upholding the values and standards set by parents, we have made it in life as we have been able to send our children including those of our siblings to school. Livestock has provided us with animal draught power and helps us cultivate more land than what most average households can afford in our community. We also provide wage employment during farming season through hiring of labor".

Because the WO households depended more on gifts and inheritance in terms of accumulating assets, they made no investments in this respect. Because of their decisions not to invest, they did not contribute much to the changes in household welfare of the WO households. Therefore, their mobility out of poverty was restricted. The decisions made by BO households, on the other hand, led to welfare changes with positive impact to moving out of poverty.

Hypothesis 2.2. Investment in Children's Education Has a Positive Effect on Household Welfare. The importance of educating children was strongly emphasized in both life histories and FGDs. In almost all surveyed communities during the FGDs, educating children was listed as a pathway out of poverty. Likewise, the educated children were said to have found jobs that enabled them to send remittances to their parents. Such remittances supported households' coping strategies when shocks were experienced. More BO households accordingly were those that sent their children to school compared to the WO households.

During interviews, a 78 year old retired man found living only with his wife in Kawambwa, attributed his wealth status to having had educated his children. The farmer is actually one of those classified consistently well off from the panel data and from the life history where he classified himself as being rich. He said that:

“I spent all my time, money I earned working at Kawambwa Tea Estate and sent all my children to school. Upon retirement from active employment, I came to stay in this village and as you can see, am very old now yet am still able to farm and earn a living. It is thanks to my children who send money to me that enables me hire labor and purchase all other agricultural inputs. I also thank my parents for having given me an education that enabled me lead generally a comfortable life especially in my prime years.”

Lack of investing in children’s education and divorce, especially by the parents for the WO households, brought about limited livelihood options and disruption of children’s education, with some being forced to stop school halfway. While the decisions generally made by parents of the BO households enabled their children to improve their welfare and move out of poverty, the negative decisions made by parents of the WO households contributed much to their children’s downward welfare change and mobility into poverty.

One old female household head aged 80 years of Mumbwa recalled how both the failure by her parents to educate her led to her enter into an early marriage and affected her welfare. In her own words she said:

“Since my parents failed to take me to school, coupled with the demise of my father that left without an inheritance, it became very difficult for me to live independently. This position forced me to enter into an early marriage when I was only 14 years old. Unfortunately, this marriage broke down at some point but I already had children that needed to be taken care of. As if this was not enough, I also later lost my mother, leaving me completely on my own with nobody to turn to in times of need. As it is, am very poor and I totally depend on my children some of who, occasionally remit some cash for my survival”.

Hypothesis 2.3. Choice of Economic Activities Has an Effect on Household’s Welfare.

Generally, both the BO (100%) and WO households (95.6%) derived their main livelihood from farming. While a few of the WO households indicated having derived their livelihood from fishing (2.2%) and trading (2.2%) see Table 9 below, according to life histories , most households supplemented their main livelihood sources through activities such as fishing and trading. Both the better-off and WO households diversified their income sources through agricultural and non-agricultural activities. However, the main difference is that more of the BO households used improved seed varieties, participated in agricultural marketing, owned retail shops, engaged in commercial trading and hired both seasonal and permanent labor, while the WO households involved themselves more in subsistence undertakings such as petty trading activities (e.g., knitting, making fritters, beer brewing); and traditional farming (e.g., Chitemene, hand hoeing) as opposed to the improved farming methods. While the BO households hired labor for use in their production activities, the WO households tended to sell their labor to the BO households. By so doing, according to FGDs, the WO households ended up neglecting their own farm operations, which negatively affected their own production capacities.

Table 9. Household's Main Source of Livelihood

Main livelihood source	Welfare compared to both Parents	
	BO than both Parents	WO than both Parents
Farmer	100%	95.6%
Other wage employment	0%	2.2%
Fishing	0%	2.2%

Source: Authors’ Field Survey 2010.

4.2.3. Location

Hypothesis 3. Poor Households Living in Close Proximity to Good Roads and Urban Markets Are Most Likely to Specialize in Production of High Value Agricultural Products such as Horticulture, rather than Food Staples. In Contrast, Remote Locations Promote Downward Mobility. From site visits, it was evident that location played a role in the distribution of resources. The study found that most well to do households came from a location that had good access to roads, were near the town, and were well connected to both input and output markets. It was also reported during FGDs, those households with access to good infrastructure such as paved roads, nearby local markets, schools, and health facilities tended to have improved their general welfare. The availability of paved roads and markets contributed to diversified livelihood activities that included trading and owning shops. Furthermore, communities reported having basic facilities such as schools, health centers, and boreholes. However, the differences were in the distances to these facilities.

For instance, in Shibuyunji in Mumbwa District, and Hufwa and Banakaila in Monze District, the distances covered were between 5km to 8 km while, Kafumbwe in Katete a distance of 20km to similar facilities were reported. Shimumbolo in Kawambwa District represented a community that was located near a tarred road and had all its facilities located within the community. Although, FDGs were not held in Serenje and Mpika Districts based communities, visitations to these areas during household interviews revealed that these were the furthest and had poor infrastructure. Furthermore, these areas showed there being no significant economic activities going on other than just subsistence farming.

While in all surveyed communities there were no well-established local markets, some had access to the nearest township markets such as in the case of Hufwa and Shibuyunji. Both of these areas happened to be doing well in economic activities such as gardening and growing high value crops, such as paprika, cotton, and sunflower. This finding, therefore, confirms the hypothesis that households living in close proximity to good roads and urban markets are most likely to specialize in production of high value agricultural products such as horticulture, rather than food staples.

Therefore, the areas located in more remote areas were shown to be prone to non-participation in economic activities of any value. Dixon and Gulliver (2003); Pham Thai Hung, Bui Anh Tuan, and Dao Le Thanh (2008); Lanjouw, Quizon, and Sparrow (2001); Reardon et al. (1997) all emphasized the importance of social, economic, and institutional environment to communities as these help in determining access to resources such as paved roads, public transportation, and generally being to closer to roads. These factors ultimately enhance the success of both farm and off-farm activities. This implies that remote areas without these facilities are more likely to experience a downward mobility.

4.2.4. Shocks

Hypothesis 4. Negative Shocks Are More Likely to Promote Downward Mobility into Poverty. The four main groups of shocks experienced by all surveyed communities were:

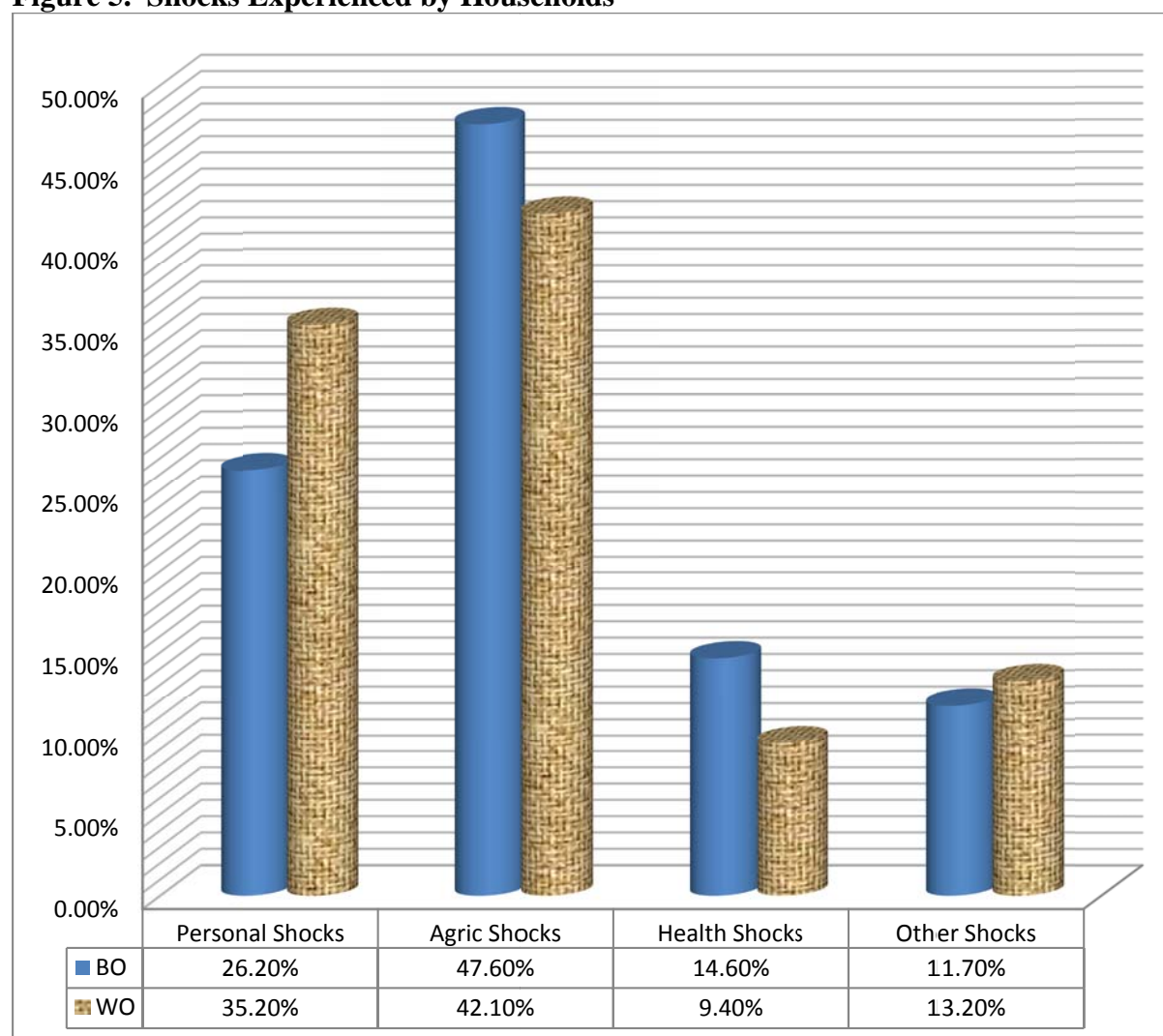
- personal losses (e.g., Court cases, loss of regular employment, divorce, rape, conning/extortion);
- agricultural (e.g., invasive weeds, recurrent crop failures, death of livestock due to diseases);
- health (loss of spouse, poor health); and
- other related shocks (e.g., land grabbing, terminal ill children, theft of farm produce).

The findings showed that both the better-off and WO households experienced the same types of shocks. However, more of the BO households experienced the agricultural related shocks (47.6%) and the health shocks (14.6%), compared to the WO households shown to have experienced 42.1% and 9.4% of agricultural and health shocks, respectively. More of the WO than both parents indicated they had experienced personal shocks (35.2%) and other shocks (13.2%). In comparison the BO households experienced 26.2% and 11.7% of personal and other shocks, respectively (see Figure 5 below).

On average, each of the households from the WO than both parents experienced the highest number of both agricultural (2.5) and personal shocks (1.5) than each of the households from the BO than both parents category that experienced a mean of 1.6 and 1.1 of agricultural and personal shocks, respectively. The average number of health shocks experienced per household from the BO and WO than both parents categories were the same (2.0).

About other shocks, the households from the worse off were each shown to have experienced a mean of 0.5 compared to the BO households (0.4). See Table 10 below.

Figure 5. Shocks Experienced by Households



Source: Authors' Field Survey 2010.

Table 10. Mean Number of Shocks Experienced per Household

Type of Shocks		HH Welfare compared to parents	
		BO than both Parents (29)	WO than both parents (46)
Personal shocks	Mean	1.1	1.5
	Maximum	4.0	7.0
	Minimum	.0	.0
Agricultural Shocks	Mean	1.6	2.5
	Maximum	5.0	7.0
	Minimum	.0	.0
Health Shocks	Mean	.4	.5
	Maximum	2.0	2.0
	Minimum	.0	.0
Other Shocks	Mean	0.4	0.5
	Maximum	2.0	2.0
	Minimum	.0	.0

Source: Authors' Field Survey 2010.

The impact, according to life histories was more on the WO households as they lacked options to cope with experienced shocks. This finding thus confirms the hypothesis that negative shocks led to downward mobility for those without any well defined coping strategies such as being educated and having assets—a case scenario rightly demonstrated by the BO households. For example, a young widow aged 41 of Mumbwa recounted how her life situation changed from that of being well off to being poor after the loss of her husband. She explained that:

“I lost my husband with whom I had 8 children. Six of whom had passed on leaving me with many young grandchildren. After my husband died while living in Lusaka, my in-laws ill-treated me and repossessed all the property, forcing me to migrate and find own land here in Mumbwa. Up to now, despite my having to take care of grandchildren, my in-laws have neither visited nor helped in any way. I have no livestock (this being a major asset used as a coping strategy) and continue to experience labor shortages. In addition, I have now gone blind and am not able to sustain my farming operations as before. I am only able to cultivate a quarter of a hectare of the available 10 hectares of land. When faced with difficulties, I resort to doing nothing about it.”

5. DISCUSSIONS AND IMPLICATIONS FOR POLICY MAKERS

The study identified the importance of endowments, key decisions that households make, and shocks experienced as key drivers of welfare change among rural households and suggests the following policy implications of these findings:

Improved education is still one of the most important pathways out of poverty, for two reasons. First, better education enables people to participate in higher productive activities like use of improved technology and market oriented activities. Second, better education increases the chances of having access to the other forms of capital such as the ability to join farmer associations which are avenues through which training is provided, and other pathways out of poverty such as migration in search of employment. Therefore, ensuring that the poor have access to education should be a major focus of the government's poverty reduction strategies. This might include introduction of literacy classes, skill training, and client tailored lessons in service training.

Having assets was shown to enable households to engage in more efficient and productive activities, which led to accumulation of more wealth. Additionally, having a large amount of assets cushions the impact of negative events that rural households may face. While asset acquisition through inheritance and gifts are important for the initial establishment of the farm, households require building up of assets such as land, farm equipment, and livestock through investments for continued growth. The implication being that, policy makers should provide an enabling environment by instilling both entrepreneurial skills and creating a business mind among the rural poor through education and training.

Social capital in the form of farmer cooperatives, farmer groups and clubs that provide opportunities for accessing inputs, training, technology and information, and social networks such as work parties, home based care, and friendship based systems that acted as local support systems where formal systems were non-existent also played a significant role in the general welfare of households. There is, therefore, need to enhance and increase existing local social support systems so they can contribute more to the general welfare of households. Formal forms of social capital should, on the other hand, continue to be formed in areas where they do not exist, while those already established should be strengthened. There is also a need to recognize emerging social networks with a view to formalizing them in order to gain more benefits.

However, survey results also showed that despite households having gained access to inputs, there were no indications that such an intervention improved household's welfare especially of the WO households that reportedly benefitted more. Thus, policy makers need to review the current procedures in the Fertilizer Input Support Program pertaining to targeting recipients if increased production were to be attained among small-scale farmers focusing more on viable farmer categories to improve general welfare of rural households.

The study found that female-headed households are still marginalized in rural areas and continue to face unique challenges that their male counter parts do not usually face and, hence, are more likely to fall into poverty. The major challenges were: a) limited access to education, b) restricted ownership of assets due to practiced inheritance patterns, and c) in some cases experiencing critical labor shortages in farming activities due to absence of male labor upon being divorced, widowed, or abandoned. There is a need for continued efforts and programs aimed at promoting the education of women in agriculture, especially the female-headed households. Furthermore, policy makers should ensure that the various statutory

requirements aimed at empowering women such as the National Gender Policy of 2000 and the Multi-sector Country Gender Profile in Zambia, including the adoption of international treaties such as the 1997 SADC declaration on Gender, and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) receive the impetus they deserve.

In addition, the traditional leadership should continue to be engaged in reforming laws and changing traditions that have a negative impact on the general welfare of households, particularly on women who tend to lose assets. The existing local institutions that support the cause of women should also be given latitude to promote civil awareness.

Decisions made by households in investing and parents owning productive assets such as land, livestock, and farm equipment were found to have contributed to having a solid foundation in the accumulation of wealth. In recognition of the prevailing problems in inheritance systems that do not favor direct transfer of parents' assets to their children (as is the case with matrilineal systems), policy makers should strengthen the legal means to transfer assets and provide civic education on the importance of leaving wills to ensure the protection of beneficiaries.

Investment in the education of children was found to be beneficial in household welfare improvement, as educated children found non-farm jobs that enabled them to assist their parents through remittances that subsequently contributed to parents' ability to absorb shocks and asset accumulation. It was further observed that the progression rate of rural households to higher education was much lower as most of them did not go beyond a primary education level. The major constraints were distance to schools, lack of basic schools, and for some the inability to meet school expenses. As such, policy makers should continue to provide infrastructural facilities mainly through increasing the number of basic and high schools in such areas as a means of promoting rural households' progress to higher levels of education.

Notwithstanding the growing importance of the non-farm activities, e.g., trading, retail shop ownership, and blacksmithing in rural areas, it is still clear that the majority of the poor will remain in rural agricultural activities for some time to come. The study findings suggest that improving agricultural productivity is the main pathway out of poverty. It would seem appropriate therefore, for the government and other stakeholders to shift resources towards actions, which boost agricultural productivity. These might include increased spending on agricultural research, improving the extension service, reducing costs by improving rural roads, and facilitating access to and use of more modern technology. Results also highlighted the key role played by the non-farm activities, which calls for improving the investment climate in the rural non-farm sector.

For the promotion of economic activities and general welfare in rural set ups, infrastructural development should be given the prominence it deserves in all government and interested stakeholders intervention programs. The role of policy here should be to support and facilitate access to the economic and social services in rural areas that are needed to reduce poverty.

The study showed that rural households are vulnerable to shocks. Among them are agricultural and health related shocks. According to FGDs, HIV and malaria have continued to ravage the lives of rural households. These shocks reportedly cause households to disinvest their assets as a way to cope. This forces people with limited assets, such as the case of the WO households, to descend deeper into poverty. Agricultural shocks mainly experienced were droughts, floods, and loss of livestock through diseases. Health shocks were mainly loss of family members due to malaria and HIV/AIDS. For agricultural shocks, diversification of

farming activities and off-farm income generating activities including promotion of improved livestock breeds should continue to be supported. Current programs aimed at minimizing occurrences of malaria and HIV/AIDS should be continued.

6. CONCLUSIONS

Human capital of both households and parents has proven to be a major characteristic that made a difference in household welfare. The BO households rather than the WO households consisted of persons who attained a higher education that gave them the capability to keep up with latest farming techniques such as using improved varieties and technologies, and were generally more trainable and willing to participate in farmer associations/clubs. Both the education and positive perception of parents on educating their children influenced to a great extent the education attainment of household heads and contributed to the ultimate improved welfare changes of households.

Both the BO and WO households at household establishment and at present owned a variety of assets (such as land, livestock, farm equipment, and houses). The BO households in addition to inherited assets made investments while the WO households continued to depend on gifts and inheritance. As such, the investments made by the BO households enabled them to accumulate more assets and, therefore, they could better withstand unforeseen shocks. Without improving their general welfare, the WO households were more prone to experience negative shocks.

Membership in associations/clubs and all other networks such as kinship ties, work parties, and friendships contributed positively to the general well being of households. More of the better off belonged to this particular form of social capital. While membership to associations/clubs enabled households to gain benefits such as easy access to inputs where more of the WO households benefited, a household's ability to mitigate negative shocks laid also in community cohesiveness.

Gender has implications on households' welfare. In all surveyed communities there were fewer female-headed households compared to male-headed households. The majority of female-headed households were in the worse off category due to lack of education that led them to early marriages, unstable marriages, and subsequent divorces. As women they were also shown to suffer greater loss during distribution of household assets upon dissolution of marriages; more so if they came from households that practiced polygamy. Their situation also worsened upon the demise of husbands, because they lost male labor and assets through practiced inheritance systems. In addition, the heavy workload restricts women from benefiting from established social capital and, thus, rendering female-headed households more vulnerable to poverty and downward mobility as compared to male-headed households. Investments made in productive assets such as land and livestock by the BO households through hard work were found to have helped improve household welfare and their ability to better cope with negative shocks. The WO households, on the other hand, had not invested; therefore, they did not cope as well with negative events. Clearly, the results show that investments were easier made when one had an initial asset base, as has been the case among the BO households.

Investments made in educating children resulted in welfare improvement in that it provided a source of off-farm income to parents from their children who obtained employment upon getting educated. Such remittances were further said to have contributed to households' coping strategies when shocks were experienced. More BO households sent their children to school compared to the WO households.

Income diversification from both agricultural and non-agricultural activities led to household welfare improvement of especially the BO households. Diversified income sources for the

BO households included growing cash crops as well traditional crops, establishing shops, and commercial trading. Other equally important economic activities included market participation, use of improved seed varieties, and the ability to hire both seasonal and permanent labor. On the other hand the WO households' diversified income sources were more subsistent such as engaging in petty trading activities (e.g., knitting, making fritters, beer brewing) and traditional farming (e.g., Chitemene, hand hoeing). They also sold their labor to the BO households—a situation which led to negligence of their own farm operations and negatively impacted their production capacities.

Location clearly helps determine the extent of improving one's welfare in that those that have access to social amenities and good infrastructure tended to participate in income generating activities as opposed to those that were located in remote areas and were without such facilities. It was generally observed that households that were well off tended to come from communities located closer to good infrastructural facilities.

Similar shocks were experienced by both the BO and WO households with slight variations in intensity. In terms of impact however, each of the households from the WO households compared to the BO were shown to have been negatively impacted more by the experienced shocks. The BO households, on the other hand, demonstrated the capacity to cope with negative shocks because of having accumulated more wealth.

APPENDIX

Table A1. Household Classification According to Panel Data (2001-2008)

Poverty Mobility Group	Household rank in terms of welfare terciles (Bottom 3 rd Middle 3 rd Top 3 rd)			Income welfare	
	2001	2004	2008	Count	%
Rising from Poverty	Bottom	Bottom	Top	114	2.7
	Bottom	Middle	Top	101	2.4
	Bottom	Top	Top	93	2.2
				308	7.2
Declining into Poverty	Top	Top	Bottom	107	2.5
	Top	Middle	Bottom	121	2.8
	Top		Bottom	115	2.7
		Bottom		343	8.0
Consistently Non-Poor	Top	Top	Top	560	13.1
Consistently Poor	Bottom	Bottom	Bottom	290	6.8
Consistently in the Middle	Middle	Middle	Middle	191	4.5
				1,041	24.3
Otherwise in the same wealth tercile in 2001 and 2008	Bottom	Middle	Bottom	171	4.0
	Bottom	Top	Bottom	104	2.4
	Middle	Bottom	Middle	150	3.5
	Middle	Top	Middle	132	3.1
	Top	Bottom	Top	97	2.3
	Top	Middle	Top	170	4.0
				824	19.2
Smaller increases in relative welfare over time	Bottom	Bottom	Middle	195	4.5
	Bottom	Middle	Middle	162	3.8
	Bottom	Top	Middle	95	2.2
	Middle	Bottom	Top	85	2.0
	Middle	Middle	Top	138	3.2
	Middle	Top	Top	164	3.8
				839	19.6
Smaller decreases in relative welfare over time	Top	Top	Middle	197	4.6
	Top	Middle	Middle	165	3.8
	Top	Bottom	Middle	107	2.5
	Middle	Top	Bottom	88	2.1
	Middle	Middle	Bottom	167	3.9
	Middle	Bottom	Bottom	207	4.8
				931	21.7
Full Sample				4,286	100.0

SOURCE: CSO/FSRP PANEL DATA 2001-2008.

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