

Factors Influencing Poverty Alleviation amongst Microfinance Adopting Households in Zambia

Mavhungu Abel Mafukata^a, Grace Kancheya^b, Willie Dhlandhara^c

^{a,b,c} University of the Free State, Centre for Development Support,
Internal Box 100, P.O. Box 339, Bloemfontein, South Africa, 9300

Abstract

The main objective of this paper is to investigate the factors having the most influence on the alleviation of poverty amongst the households adopting microfinance in Zambia. Ninety nine (n=99) respondents were randomly and purposively selected from amongst 340 microfinance adopters of the so-called Micro Bankers Trust programme operating a microfinance business in the Makululu Compound of Kabwe, Zambia. Socio-demographic primary data were collected through face-to-face interviews based on a semi-structured questionnaire instrument. The data were entered into an excel spreadsheet for analysis. The descriptive data were thereafter exported and fitted to an empirical model. The descriptive results revealed that the majority of the respondents were married, unemployed, fairly educated younger women from larger-sized poor households who drew their household income mainly from microfinance activities. The majority of the respondents thought microfinance had improved their well-being in some crucial areas. The results of the empirical model found that some respondents were indeed alleviated from poverty through microfinance. Conclusion drawn in this paper is that microfinance does alleviate poverty of the poor.

Keywords: *Micro-enterprises, Microfinance, poverty alleviation, Perceptual studies, Savings, Zambia*

JEL Code: G21, 016

© 2014 Published by SSBFNET

1. Introduction

Despite the ever increasing popularity of microfinance as the best ever emerging poverty alleviating tool in the developing regions such as Sub-Saharan Africa in modern social science and development disciplines, there is however increasing counter-argument questioning the effectiveness of micro-finance in alleviating poverty amongst the poor. A plethora of literature argues that the effectiveness of micro-finance on poverty alleviation remains a highly contested and unresolved debate and mystery in both the social sciences and development disciplines respectively.

^a Corresponding author. Telephone: +27729098608

This paper investigates the factors affecting poverty alleviation amongst microfinance adopting households in Zambia to contribute to seeking for a resolve on the effectiveness of microfinance in alleviating poverty debate amongst adopting households. We base our paper on the conclusions drawn by most reviewed literature (Kausar, 2013; Khavul, 2010; Matovu, 2006) who contended that there was no proven evidence yet suggesting that adoption of micro-finance by the poor was effective in poverty alleviation of their households in the developing regions. In addition, socio-demographic characteristics of the microfinance adopters would largely play a critical role in determining the successes of microfinance in household poverty alleviation. In other words, it is not forgone that adoption of microfinance would alleviate poverty. The investigation of the effect of socio-demographic characteristics of the respondents is necessary considering diverse views as to who the adopters of microfinance were (Matovu, 2006). For example, some literature (Lau, 2005; Matovu, 2006) argue that the adopters of microfinance were not the so-called poor but a middle-class group who were in better positions to service their loans. We employed perception measurement amongst the adopters of microfinance on the effectiveness of microfinance in alleviating poverty in their respective households to draw conclusions. We furthermore employed empirical models to determine those factors having the most significance on the effectiveness of microfinance ability to alleviate poverty amongst the adopters' households. The empirical model is built on the assumptions that microfinance adopters were able to improve their input purchase, business sales, asset acquisition and technological improvement – increasing the opportunities to move out of poverty as a result (Balogun & Yusuf, 2011; Milan, 2011; Wanambisi & Bwisa, 2013). This paper departs from the notion that there is evidence that poverty could be reduced even-though that could have to be achieved through an assortment of intertwined factors which might include microfinance for example (Leikem, 2012).

2. Literature Review

Development and economic growth agencies the world over concede that reducing global poverty by half by the year 2015 as envisaged by the United Nations would require a proven and reliable tool to achieve the goal. It is however clear that the tool to achieve this goal is yet to be convincingly and conclusively developed. Pretes (2002) argued that developing economies might adopt Aid and Equity Grants to fund development of microenterprises amongst the poorest of the poor in society arguing that Equity Grants were more effective to financing the poor more than microfinance. Alternatively, Pretes (2002) furthermore argued that a partnership adoption of microfinance and Equity Grants could yield better results. On the one hand, Moyo (2005) is critical to Aid and grants as tools to fund economic rehabilitation in Africa arguing that Aid and grants instead encouraged dependency by Africans. However, in the process, most development and economic growth agencies in the developing regions believe that microfinancing the poor might provide an exit of the poor from the poverty trap (Khavul, 2010). The Grameen Bank model of microfinance which this paper refers to as first adopted by Professor Muhammed Yunus in Bangladesh in the early 1970s has become one of the most employed tools for poverty alleviation in the world (Kausar 2013; Galema, 2011). However, we need to emphasise that Yunus' microfinance initiative was not basically the founding concept of the microfinance industry in the world. There has been microfinance before (Brune, 2009) whether institutionalized or not – which took the form of local informal moneylenders and social groups such as family and friends (Pretes, 2002).

However, the Grameen Bank microfinance model of Muhammed Yunus which based itself on group finance has since become a global approach to financing the poor who were by and large marginalised by mainstream formal commercial banks – especially in regions such as Sub-Saharan Africa, Southeast Asia and Latin America where poverty had been entrenched in society through income inequalities and economic instabilities amongst others (Kausar, 2013; Calice *et al.*, 2012; Chan & Ghani, 2011; Khavul, 2010; Pitamber, 2003). The fact that the Grameen Bank model of microfinance employed group-based approach suggests the reasons why this model became very popular across the world amongst microfinance service providers because the approach is thought to minimise the high risk associated with micro-borrowers and in addition made the service less expensive and cost-effective for the service provider (Khavul, 2010).

The growth of microfinance provision to the poor is despite some counter arguments that microfinancing the poor is wastage of money because of the unproven productivity, profitability and lack of evidence of its effectiveness to alleviate poverty (Kausar, 2013). In addition, microfinance is said to be exaggerated, unsustainable and its successes and fulfillment of its promises in assisting the real poor move out of poverty largely unproven (Matovu, 2006) and unclear (Khavul, 2010). On the one hand, many argued that microfinance reduced poverty, improved the life style of the poor, improved household and business income while increasing purchasing power at entrepreneurial and household levels and contributed to household asset building – improving self-sufficiency amongst its adopters where it had been adopted resulting in the poor households being lifted out of poverty (Brune, 2009; Durrani *et al.*, 2011; Jegede *et al.*, 2011; McIntosh & Wydick, 2005; Mosley & Hulwe, 1998; Wanambisi & Bwisa, 2013). However, there has been some acknowledgements of the shortcomings of microfinance by some microfinance impact writers but such also contended that despite the shortcomings, microfinance was still helpful to the poor (Mosley & Hulwe, 1998; Odell, 2010) – especially those who have for decades been excluded from mainstream economic participation by large scale commercial financial services (Brune, 2009; Chan & Ghani, 2011; Durrani *et al.*, 2011; Haile, 2010; Khavul, 2010). Khavul (2010) opined that microfinance should provide services such as credit, savings, insurance, mortgages and retirement plans amongst others. However, microfinance in the developing regions has had some emphasis on provision of small unsecured loans to the adopters for business expansions and nothing more. On the one hand, Mosley & Hulwe (1998) for example argued that although microfinance has had some profound impact on poverty alleviation, such impact was however not universal but dependent on various other intertwined factors such as gender and endowments of the adopter amongst others.

The view shared by Mosley & Hulwe (1998) might suggest that the impact of microfinance is therefore not guaranteed in every circumstance – as it might vary from adopter to adopter and institution to institution. Clearly, the impact of micro-finance on poverty alleviation is clouded with much controversy – and there is yet clear consensus at policy, institutional and research levels reached so far as to its real effect on moving adopters out of poverty. Khavul (2010) opined that it has become clear that microfinance's impact on alleviation of poverty remains a highly contended conclusion in modern development and economic disciplines – but however, a huge subject of a widespread debate currently going on in these disciplines on the one hand. Considering the contrasting views as to the impact of micro-

finance on poverty alleviation, the question arising therefore is “*has microfinance indeed succeeded in moving the poor out of poverty?*” This is the main question this paper envisages to answer within the context of the statement of the problem for this paper. Existing literature could not sufficiently address this question – especially in Zambia where the microfinance sector is relatively new with an unknown adopter base (Lopa, 2008). In fact Chan & Ghani (2011) also conceded that there was limited literature on whether microfinance did indeed improve people's lives or not – especially in the developing regions.

In addition, methodological limitations of microfinance impact studies also contributed to lack of convincing answers to the question as raised because most of such studies employed one dimensional approaches in the investigation of such impact. Most of such studies based their conclusions on the perceptions of the adopters of microfinance despite a plethora of limitations of perception-based impact approaches. However, we do not intend to be dismissive of perception-based studies but only acknowledging their material limitations. For example, Durrani *et al.* (2011) based their study of the impact of microfinance on poverty alleviation in the so-called Dera Ismail Khan District, Pakistan on the perceptions of the adopter respondents of microfinance amongst the clients of the Khushali Bank Limited Branches – and still managed to emerge with some excellent results. However the limitations of the perception-based approach on impact studies remain a major point of debate in the social sciences. Perception-based inquiries have been part of scientific inquiry in various disciplines for decades with scholars such as Nicholas Kerr (Kerr, 2012) having had employed this approach with distinction in the study of democracy in African politics – off course with positive outcomes. But on the other hand, perception-based approaches might not yield reliable results because the data collected from the respondents might be open to some distortions. For example, some respondents might not disclose certain information as required. Such incidences have been experienced elsewhere before. In fact Nanja (2010) reported that there were times when respondents colluded not to disclose certain information to the researcher, alternatively to tell lies in a study conducted in Monze, Zambia. In such cases, flawed and misleading assumptions could be made with consequences on policy development and strategic implementation by both policy makers and development and economic practitioners.

As a result of the limitations of perception-based studies, some social science researchers have moved to employing empirical approaches to compensate the weaknesses of perception-based approaches. However, researchers such as Chawdhury *et al.* (2002) contended that employing empirical approaches would still not wholly remove the methodological challenges faced by impact studies arguing that even empirical studies were at times not conclusive to the final research outcome. For example, empirical studies have found contrasting conclusions on the impact of microfinance on poverty alleviation – with some arguing that microfinance did indeed reduce poverty while some found no evidence to that effect (Chawdhury *et al.* 2002). This paper employs both approaches in its endeavour to establish the impact of microfinance on poverty alleviation in Zambia in order to strike a balance. First the paper employs the traditional perception-based approach and secondly the empirical model approach which in this case employed the so-called Binary Logistic Regression model to identify the factors having the most significance on the probability of the adopters of micro-finance moving out of poverty.

For the traditional perception-based approach, we asked the respondents whether after adopting microfinance there has been any improvement in some certain selected areas of measurement – especially on improvement of household income, access to healthcare and education, the ability to save money with commercial banks and household consumption amongst others. We wish to state categorically that we do not intend to compare the adopters and the non-adopters of microfinance to prove outcome in this case. The second step was to construct the empirical model. We selected a considerable number of independent variables and paired them with a dependent variable premising probability of poverty alleviation – and data from the descriptive results were exported and fitted to the Binary Logistic Regression model to determine the results. For this paper we selected the Binary Logistic Regression approach because regression models were known to be effective in predicting impact outcomes in most social science disciplines (Agresti, 1997; Bahta & Bauer, 2007; Mafukata, 2012; Pote, 2008). Most critically, this paper adds value to microfinance operation, management and governance and in addition policy direction by providing critical information on the socio-demographic characteristics of the adopters of microfinance in Zambia while seeking to address the question of who the adopters of microfinance in Zambia were. Furthermore, the paper reveals whether microfinance is an empty hype or productive tool for poverty alleviation initiatives in Zambia by providing what the adopters thought and empirically tested evidence through an empirical model.

We chose to explore the impact of microfinance on poverty alleviation after observing the increasing global euphoria generated by some optimists who contended that microfinance has become the panacea for the removal of increasing poverty challenges experienced by the majority of modern developing regions. This assertion has immensely contributed to global shift of sustainable development and economic growth policy direction in the developing regions – especially since the mid-1980s when a number of developing economies began to promote microfinance access by the poor as a new way to stimulate and improve employment creation opportunities and self-sufficiency of the poor to grow the ailing economies amongst others (Khavul, 2010; McIntosh & Wydick, 2005; Pretes, 2002). As a result, majority of developing economies were to shift their sustainable development-economic growth policies from the conservative and exclusive larger commercial banks approach serving and mostly interested on the minority well-resourced and elite populace while shunning the poor on the one hand (Balogun & Yusuf, 2011; Chan & Ghani, 2011; Chawdhury *et al.*, 2002) towards increasing opportunities for resource-poor households to access microfinance. The premise of most of these smaller economies has been that assisting the resource-poor with microfinance would improve the entrepreneurial endeavours of the poor – especially with regard to acquisition of assets; technological improvement and increasing of sales (Khavul, 2010; Wanambisi & Bwisa, 2013) and also promote development of micro and small-scale (SMEs) enterprises that would increase employment creation and household income opportunities for millions of the poor considering the prevailing high unemployment rates in the developing regions (Chawdhury *et al.*, 2002; Jegede *et al.*, 2011; Mustafa & Ismailov, 2008; Odell, 2010; Pretes, 2002). Obviously this would be a step towards integration of the dual-economic system characterised by the poor and the rich which has dominated most economies in the developing regions by narrowing the competition gap between the micro and large scale economic sectors. Clearly, this brings us to the concept of economic policy transformation which emerging

economies should effect in order to encourage economic systems which are more integrative and inclusive in terms of class and gender in particular (Mafukata, 2012).

Having considered the benefits arising from microfinance activities, the resource-poor have increased the demand for this service in most developing economies (Chan & Ghani, 2011) – and the demand is even expected to increase more and more – especially with current political and economic shifts of policy in most parts of the developing regions (Bratton *et al.*, 2005). Furthermore, some mainstream commercial institutions have also begun to appreciate the fact that a productive microfinance sector not only assisted the resource-poor but also provided a viable niche market for the larger commercial banks which has to be exploited. For example, Calice *et al.* (2012) found that approximately 91 banks in 45 countries of the world conceded that the microfinance sector could be profitable and has been growing into an attractive niche market for the larger commercial banks – and therefore strategically crucial for macro-economic growth. Despite the positive resolve on the micro-finance sector, access to this service and product by the larger majority of the resource-poor remains uncharacteristically low in most developing economies – with the populace in this category largely unserved and excluded from accessing bank finance (Calice *et al.*, 2012; Chan & Ghani, 2011; Chawdhury *et al.*, 2002). In the process, the Sub-Saharan Africa region only reaches 20% of the resource-poor with micro-finance against Latin America (44%) and Central Asia (23%) - with the worst being Eastern Europe (9%) for example (Calice *et al.*, 2012; Chiumya, 2006). Of the countries that have realigned their economic policy to focus on the poor and micro-finance provision is Zambia. After the regime changes that removed President Kaunda from power in 1991, Zambia began a new economic dispensation which shifted from Kaunda's over-emphasised state socialist economy to a more democratic capitalist privatised economy. In July 2001, Zambia released what became known as the Poverty Reduction Strategy Paper of Zambia, a Civil Society Perspective (PRSP) followed by the National Summit on Poverty Reduction of 15-18 October 2001 to kick-start a new policy direction targeting increased economic growth, citizen empowerment and poverty reduction measures amongst its mainly poor populace (Schroeder, 2002) which largely depended on base metal mining, agriculture and tourism for livelihood for much of the time (Lopa, 2009). Lopa also revealed that Zambia promoted access of microfinance by the poor to fund micro and small-scale enterprise development and the sustainability of the sector to implement its new pro-poor economic policy. Currently, microfinance has become Zambia's major sponsor of this new pro-poor policy direction. Lopa furthermore revealed that there were approximately seven micro-finance institutions supervised by the Bank of Zambia, twenty micro-finance institutions affiliated to the Association of Microfinance Institutions of Zambia (AMIC) and various others which were independent. The micro-finance boom in the Zambian economy of late might suggest that indeed poor Zambians wanting to enter active economic systems have found microfinance beneficial and useful. What is not clear yet however is whether those who entered the microfinance industry improved their lives or not. There has been dearth of literature delving into such investigations – while on the other hand, the existing literature was methodologically inadequate to determine such.

3. Methodology and data

This study was conducted at the Makululu Compound in the City of Kabwe, Zambia. Kabwe is one of the major cities of the Republic of Zambia. The city is situated approximately 150 Kilometers west of the capital city Lusaka. Makululu is said to be the largest shanty town in Zambia with a population of approximately 60 000 persons. The majority of the population in Kabwe and Makululu Compound in particular were unemployed. The high unemployment rates were exacerbated by the collapse of the base metal mining sector in this town in the 1980s which had provided employment to the larger part of the population in the area. Micro and small-scale informal entrepreneurship forms the main provider of employment and household income and livelihood in Kabwe in general and Makululu Compound in particular. Ninety nine respondents (n=99) were randomly selected for a questionnaire-based survey. A semi-structured questionnaire was administered on the selected participants to collect socio-demographic characteristics and perceptions of the respondents on the benefits of microfinance amongst adopting households. The socio-demographic data of the respondents were collected on the age, marital status, formal educational levels attained, number of members in the households, employment status, main source of household income, number of years in the microfinance scheme, ability to repay the loans and ownership of registered micro-enterprise amongst others. Perceptual benefits of microfinance of the respondents were measured based on the profitability of micro-enterprise of the respondent, investments made, acquired skills, improvement of household income, improvement of access to healthcare service and educational improvement of the respondents' children. Descriptive results were obtained through a statistical data analysis employing SPSS Version 9.0. On the one hand, an empirical model was employed to analyse the impact of microfinance on poverty alleviation amongst microfinance adopter households in Makululu.

4. The Findings and Discussion

This section presents the findings of this paper.

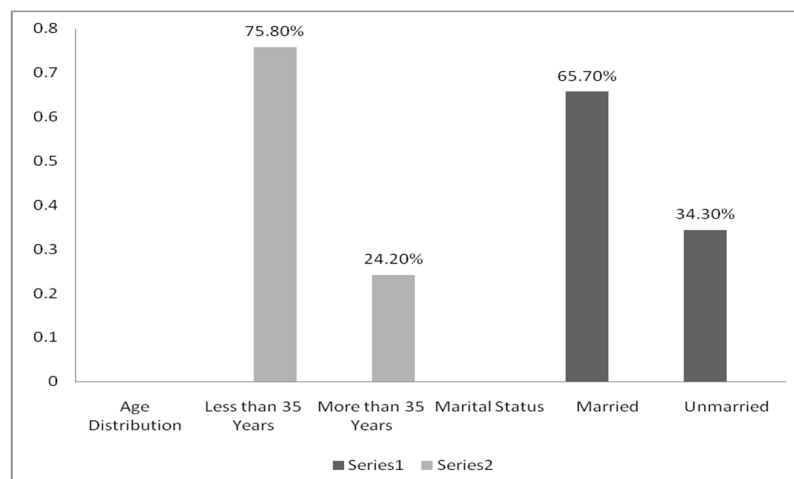


Figure 1: Socio-demographic characteristics of the respondents: Age and marital Status distribution

Table 1: Additional socio-demographic characteristics of the respondents' households

Variable	Category	Frequency	Percentage
HHSize	<6 Members	39	39.4%
	>6 Members	60	60.6%
Level of Education attained	Primary	33	33.3%
	Secondary	66	66.7%
Employment of other household members	Employed	14	14.1%
	Unemployed	85	85.9%
Employment Status	Unemployed	98	98.9%
	Employed	1	1.1%
Perception of poverty	Lack of food	48	48.5%
	Other	51	51.5%
OtherHHIncome Source apart from micro-finance	Yes	33	33.3%
	No	66	66.7%

Table 2: Institutional information

Variable	Category	Frequency	Percentage
Longevity	<3 Years	43	43.4%
	>3 Years	56	56.6%
OtherMFI	Yes	33	33.3%
	No	66	66.7%
System	Group	99	100%
	Individual	00	00%
Loan Repayments	Struggles	27	27.3%
	Do not Struggle	72	72.7%
Ownership of registered enterprise	Yes	00	00%
	No	99	100%

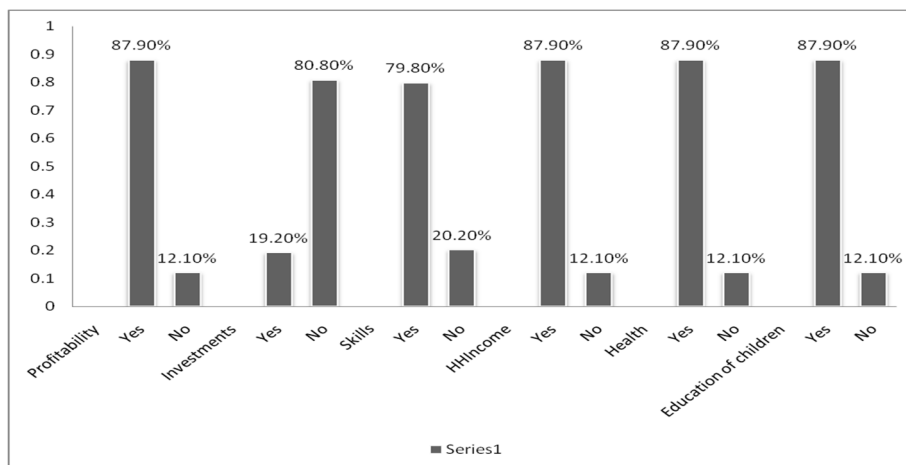


Figure 2: Perception of the respondents on household improvement based on microfinance adoption

Results of the Empirical model

Pearson’s chi square test was performed to establish relationships between the *dependent* and *independent* variables. The following were the results of the model:

Table 3: Pearson’s chi square test for ownership against each of the selected independent variables

	Variable	Pearson chi2(1)	P-value
1	Age	0.9625	0.327
2	EducationA	0.003	0.957
3	EducationB	1.02	0.313
4	EmploymentA	1.4291	0.232
5	MaritalStatus	4.4678	0.035
6	EmploymentB	2.6843	0.101
7	Poverty	0.0024	0.961
8	HHSize	0.5958	0.440
9	Longevity	29.4885	0.000
10	OtherMFI	0.5884	0.443
11	Repayment	0.2932	0.588
12	Profitability	0.3675	0.544
13	Relations	1.5837	0.208
14	AccessA	6.3485	0.012
15	AccessB	14.2125	0.000
16	HHIncome	6.3485	0.012
17	Skills	0.0207	0.886
18	Support	0.5228	0.470
19	Investments	2.2091	0.137
20	OtherIncome	1.3322	0.248

Table 4: Logistic regression results: odds ratios

ownership	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
MaritalStatus	3.612331	1.998551	2.32	0.020	1.221388 10.6837
Longevity	7.195482	3.8956	3.65	0.000	2.490138 20.79201
AccessA	2.141837	1.957908	0.83	0.405	.3570106 12.84966
AccessB	11.14047	13.27068	2.02	0.043	1.0788 115.0446
HHIncome	2.340128	2.168091	0.92	0.359	.3807282 14.38349
_cons	.0058953	.0102325	-2.96	0.003	.0001964 .1769883

Logistic regression	Number of obs	=	99
LR chi2(5)		=	42.98
Prob > chi2		=	0.0000
Log likelihood = -45.666285	Pseudo R2	=	0.3200

Table 5: Logistic model for ownership

Classified	True		Total
	D	~D	
+	50	17	67
-	8	24	32
Total	58	41	99

Classified + if predicted Pr(D) >= .5
 True D defined as ownership != 0

Sensitivity	Pr (+ D)	86.21%
Specificity	Pr (- ~D)	58.54%
Positive predictive value	Pr (D +)	74.63%
Negative predictive value	Pr (~D -)	75.00%
False + rate for true ~D	Pr (+ ~D)	41.46%
False - rate for true D	Pr (- D)	13.79%
False + rate for classified +	Pr (~D +)	25.37%
False - rate for classified -	Pr (D -)	25.00%
Correctly classified		74.75%

Table 6: Logistic model for ownership, goodness-of-fit test

Number of observations	=	99
Number of covariate patterns	=	19
Pearson chi2(13)	=	9.04
Prob > chi2	=	0.7700

Null hypothesis: There is no reason to doubt the adequacy of the fitted model.

Alternative hypothesis: There is enough reason to doubt the adequacy of the fitted model.

Based on the STATA output indicated above, $P=0.7700 > 0.05$, we thus accept the null hypothesis, and conclude therefore that there is no reason to doubt the adequacy of the fitted logistic regression model at the 5% level of significance. We conclude that the fitted model is reliable.

5. Results and Discussion

5.1 Socio-demographic characteristics of the respondents

As indicated in figure 1, the results of this paper revealed that the majority of the respondents were aged less than 35 years (75.8%) while others were aged over 35 years and above (24.2%). These results are in contrast with Haile (2010) who found that age distribution amongst women adopters of microfinance in some parts of rural Ethiopia were older women who were over the age of 40 years while those who were younger than the age of 30 amounted to only 29%. Clearly, the results of this study opine that younger women were in the majority of recipients of microfinance in the Makululu Compound whereas the older women were in the minority. Older women might not be keen to adopt microfinance as an alternative mitigating strategy for poverty alleviation because most of them were expected to have surplus income generated from spouses and relatives such as employed children who often send remittances back home – especially those who were migrant labours in affluent places such as Lusaka; the Capital City of Zambia and other neighbouring countries such as South Africa which is expected to provide better household income opportunities to their households. On the one hand, younger women might not have this alternative income yet. In addition, older women may not participate because of their lack of information, poor understanding and knowledge on microfinance's complicated language which is expected to be difficult for the older women. The results of this study (Figure 1) revealed that the respondents were either married (65.7%) or unmarried (34.3%). These marital statuses results of this study are consistent with those reported by Obeng (2011) who found that 62.3% of women microfinance adopters in the Jaman North District in Ghana were married whereas approximately 37.7% were unmarried. The pattern of these results opines that of the older women who actively participated in microfinance activities, the majority of them were married. This could be explained by the fact that married women might adopt microfinance largely because they mostly were expected to have larger households which might need increased household inputs such as food and clothes amongst others. In addition, the extended household might still have children who still need school fees and therefore compelling the breadwinners to provide. In such cases, the other income contributed by spouses of the adopters of microfinance might not be enough to meet their household needs – especially during stressful periods when additional disposable income is needed and inevitable. Microfinance could thus provide this crucial supplementary income in this regard. As a result, most married women seek for supplementary income to assist other income generation strategies such as remittances by husbands and other members of the household by joining microfinance schemes such as the Micro Bankers Trust in Makululu Compound. The fact that the majority of the

respondents' spouses were unemployed (85.9%) followed by those with formal employment (14.1%) could be motivation enough to persuade these women to actively participate and also stay in the microfinance industry for extra income generation.

As indicated in table 1, the majority of the households (60.6%) had household memberships of over six persons whereas a minority of others had less than six persons (39.4%). These results were consistent with Lopa (2009) who found that most adopters of microfinance in the Copperbelt Province of Zambia had an average household size of six members per household. However, the majority of the larger households in this province tend to also have additional dependants apart from their own biological children for example who increase household sizes. This implies that such households might have increased maintenance responsibilities due to large households – therefore making microfinance an alternative for household income. Table 1 further showed that the majority of the respondents had attained secondary education (66.7%) while others had attained only primary education (33.3%). According to Obeng (2011), 66.7% of the adopters in Ghana had attained secondary education. Both the results of this study and those of Obeng (2011) are in sharp contrast with the results reported by Durrani *et al.* (2011) which were recorded in Pakistan. The high levels of education amongst the majority of the respondents might improve understanding of the complex language of microfinance and therefore enhance the productivity opportunities of microfinance activities in this area.

The majority of the respondents were unemployed (98.9%) while a mere 1.1% had formal employment. These results posit that microfinance could therefore become the sole major provider of household income for the greater number of households in Makululu. Even-though the respondents made some income from microfinance activities the majority however were unable to save money – especially with commercial banks (80.8%) with only a few others able to save (19.2%). Durrani *et al.* (2011) however found that approximately 98.5% of microfinance adopters in Pakistan had improved their savings – suggesting that a large majority of these adopters were saving which is in sharp contrast with the results of this study. However, this trend revealed by the results of this study with regard to savings could be ascribed to the assertion that micro-finance activities in most developing regions mostly focused on credit allocation than other financial services such as saving, insurance and money transfers for example (Milan, 2011). Lack of savings could also be linked to increased expenditure rates amongst adopter households as respondents spend most of their income in the acquisition of necessities such as food and other crucial household inputs and services. Technical reasons such as long distances which beneficiaries might have to travel as a result of the geographical remoteness of the respondents to reach commercial banks which in most cases were located in distant towns in most developing regions might also be promoting this trend (Kausar, 2013; Mafukata, 2012).

The majority of the respondents solely depended on microfinance with no other alternative (66.7%) for household income. In other words, there is lack of diversification of income sources amongst the majority of these households. This result indicate that in the event of microfinance not doing well the majority of the households in this study area might be left vulnerable to income poverty.

Poverty amongst the respondents' households is felt most in access to food (48.5%) while the other challenges contributed 51.5% of the total challenges combined. This result is understandable considering the fact that the

majority of households in the Makululu Compound relied more on over-the-counter food supply rather than personal production through food gardens and the like. Lack of space makes Makululu Compound residents unable to produce their own food.

5.2 Institutional results

Institutional data was also gathered together with the socio-demographic data using the same instrument and the results are indicated in table 2. The results of this paper revealed that the majority of the respondents (56.6%) have actively participated in the Micro Bankers Trust activities in the Makululu Compound for more than three years while others have been members for less than three years (43.4%). The longer the respondents stayed as members of the scheme the more benefits they might derive. For example, children of microfinance adopters were more likely to stay longer in school than children of non-adopters because such children were assisted by the income from microfinance activities with regard to their educational needs (Littlefield *et al.*, 2003; Khandker, 1998; Pitt & Khandker, 1998). The underlying reason for this observation is that those microfinance adopters who stayed longer in microfinance activities also improve their opportunities to accumulate subsequent benefits and were therefore able to support their household members to improve their lives. Apart from the Micro Bankers Trust programme, the majority of the respondents had no other source of microfinance income (66.7%) whereas 33.3% of others do have access to other microfinance income. For the minority group with access to other surplus income through membership in additional groups, this result might suggest that household income generation might be diversified within this group because adopters would be able to generate other crucial income from the other memberships. However, additional memberships in other microfinance schemes might be detrimental to the activities of the main group because borrowers have a tendency of running from one service provider to the other – especially when they have run into serious debts with the other and when payments were due.

All the respondents (100%) accessed microfinance through group system compulsorily adopted by the Micro Bankers Trust programme. The fact that group finance is the only system adopted for accessing loans in the Micro Bankers Trust scheme lessens the non-recovery of loans risk. Although the majority of the respondents borrowed to finance micro enterprises, none of them owned a registered enterprise. However, the results of this study revealed that the borrowers in this study area were low-risk customers because the majority of them were able to service their loans. While some struggled to repay the loans (27.3%), the larger majority of the respondents (72.7%) were able to repay their loans successfully. Those respondents struggling to repay the loans might be justified considering the expected high interest rates associated with microfinance loans (Balogun & Yusuf, 2011; Kauser, 2013) despite the assertion that there were several other economies providing better, smaller and unaffordable interest rates to micro borrowers (Li, 2010).

5.3 Perception of the respondents on the benefits of microfinance activities

The respondents were asked to comment on perceived benefits of microfinance on the improvement of various areas of the household. As indicated in figure 2, the results of this paper revealed that the majority of the adopters of

microfinance in Makululu thought that adoption of microfinance had improved the profitability of their enterprises (87.9%) against 12.1% who thought there were no improvements; new skills on microfinance operations and systems and management of micro enterprises (79.8%) against 20.2%; household incomes (87.9%) against 12.1%; access to healthcare (87.9%) against 12.1%; education of their children (87.9%) against 12.1%. These improvements were expected considering the findings of other studies (Khandker, 1998; Matovu, 2006) conducted in the Copperbelt Province of Zambia and Uganda respectively who found that micro-finance activities improved some aspects of poorer households who adopted microfinance.

However, the results of this study revealed that the majority of the respondents (80.8%) thought that access to microfinance couldn't improve their ability to make investments with mainstream formal commercial banks against 19.2% who thought they had made more improvement in this regard. This was measured by the ability of the respondents to save some of the incomes generated from micro-finance activities. There was a huge contrast of the results of this study with the results reported by Matovu (2006) who found that a large majority of micro-finance adopters in Uganda had reported considerable improvement with regard to making investments with commercial banks from income generated from microfinance activities. The majority of microfinance adopters in Uganda were able to save some micro-finance generated income with the commercial banks. Obeng (2011) however concurred with the results of this study arguing that it was difficult for micro-finance adopters to keep bank accounts with commercial banks in most developing regions either by the difficulties they faced or by institutional denials. Because of the visible improvements on the well-being of the majority of the micro-finance activities in this study area, the overall implication of these results is that the demand for micro-finance might increase in this study area for both new market and the existing one. This assertion is supported by Chan & Ghani (2011) who found that microfinance demand in the developing regions had generally increased – especially with the improved opportunities in the agribusiness sector as a result of improved access to crucial finance amongst those resource-poor populace initially excluded for financing by commercial banks. This new trend might provide benefits for both the micro borrower and the commercial system by providing finance to the borrower and a new niche market for the banker (Calice *et al.*, 2012). Households which improve the profitability of their micro enterprises stood a better chance to move out of poverty. A profitable enterprise sector might create additional employment opportunities for other members of the household as micro enterprises are mostly family businesses (Calice *et al.*, 2012). Increased household income raises the quality of life of the respective household as members improve their opportunities to access other crucial inputs such as food for example. This provides a great opportunity for the households in this study area to move out of poverty considering that a sizeable number of households (48.5%) in this study area were vulnerable to food poverty than all the other challenges combined which affect approximately 51.5%.

Furthermore, the fact that the majority of the households were able to improve their access to healthcare suggests that overall productivity of economic activities in this area stood to improve as well. A healthy household membership is crucial for increased economic productivity. This factor is crucial in this study area considering potential vulnerability of the population in Zambia in general to the devastating prevalence of HIV/AIDS in particular. Improved access to

healthcare might suggest early detection and prevention of diseases on humans – especially HIV/AIDS. In addition, improved access of education by children of micro-finance adopters might result in overall improvement of educational levels attained by the general populace in Makululu – and better education has been linked with better lives for people in the social sciences. Sustainability of the micro-finance sector depends on the skills of the members as most of these schemes were managed by the respective members on-behalf of the group. The results of this paper therefore suggest that micro-finance activities in this study area might be sustainable for a much longer period. One challenge of the sustainability of most micro-finance schemes has been that they often collapsed as a result of poor management skills amongst the members. In fact most grass-roots organisations were prone to collapsing on poor managerial skills (Mafukata, 2012). The results of this study provide a different set-up.

5.4 Results of the empirical model

Factors with the most significance on the probability of the adopters of microfinance to move out of poverty in Makululu were determined through empirical model (Table 3). The results of this study as depicted in table three revealed that the P-values with values which were less than 0.05 (5%) were as highlighted in bold. The results of this paper revealed that five variables (MaritalStatus, Longevity, AccessA, AccessB, HHIncome) were significant at 0.05 (5%) to predict the probability of the respondents to move out of poverty when measured against the dependent variable (Ownership). Moving out of poverty was measured by the respondents' ownership of household assets. On the one hand, the other variables (Age, EducationA, EducationB, EmploymentA, EmploymentB, Poverty, HHSIZE, OtherMFI, Repayment, Profitability, Relations, Skills, Support, Investments, OtherIncome) were eliminated from the model. The elimination of these factors has material implication. Unlike the existing vast body of literature which argued that the socio-demographic characteristics of the adopters of micro-finance had wholesome impact on the probability of the adopters to move out of poverty, this study found differently. The empirical results of this study for example revealed that as long as the poor households have access to micro-finance the majority of the socio-demographic characteristics of the respondents lost their influence on the probabilities of the adopters to move out of poverty. For example, socio-demographic characteristics such as age, level of education attained, household size, employment status, access to other sources of household income amongst others became irrelevant in the case of this study. The elimination of the stated variables above suggests that whether the adopter had primary or secondary level of education the adopter stood equal opportunities with the other counterpart for moving out of poverty; whether the adopter had access to other income source or not the adopter stood equal opportunities to move out of poverty just as others and whether the adopter was less than or more than 35 years old had no implication for poverty alleviation if both young or old adopters had equal opportunities to access micro-finance. We conclude therefore that the trend revealed by the results of this study with regard to the effect of socio-demographic characteristics of adopters of micro-finance on poverty alleviation were in sharp contrast with some existing literature. Therefore the theory that socio-demographic characteristics always played a wholesome role with regard to determining poverty alleviation probability amongst adopters of micro-finance as espoused by some could not always be like that. Of course this might indicate the shortcomings of perceptual studies which the Logistic Regression model employed for this study

seemed to have contradicted. We might therefore argue that it becomes empirically naïve to conclude on the impact the socio-demographic characteristics of the adopters might have on poverty alleviation without going further to employ better-suited methodologies to do so.

Furthermore, Binary Logistic Regression of the outcome variable of study (Ownership) was performed on the five explanatory variables (MaritalStatus, Longevity, AccessA, AccessB and HHIncome) which were retained by the model using the Logistic Regression command in STATA, and the results are as shown in table 4. Three of the five estimated odds ratios were significant at the 0.05 (5%) level of significance. These three significant odds ratios were different from 1, their 95% confidence intervals did not contain 1, and their P-values were smaller than 0.05. Interpretations were only given for the three significant odds ratios: The odds of the variable AccessB were 11.14. The odds of owning household assets obtained from micro -finance activities by respondents who had improved access to health were 11.14 in comparison with the respondents whose access to health had not improved. The odds (11.14) were significantly different from 1; the P-value was 0.043 which was less than 0.05 and the 95% confidence interval for the odds ratio was (1.0788; 115.0446) which did not contain 1. Hence, the variable AccessB was highly influential over the ownership of household assets. The odds of the variable Longevity are 7.2. The odds of owning household assets obtained from micro finance activities by respondents who had a membership of more than three years of the Micro Bankers Trust scheme activities were 7.2 in comparison with those respondents had a membership of less than three years with the scheme. The odds (7.2) were significantly different from 1; the P-value was 0.000 which was less than 0.05 and the 95% confidence interval for the odds ratio (2.490138; 20.79201) which did not contain 1. Hence, the variable Longevity was highly influential over the ownership of household assets. The odds of the variable Maritalstatus were 3.61. The odds of owning household assets obtained from micro-finance activities by respondents who were married were 3.61 in comparison with those respondents who were not married. The odds (3.61) were significantly different from 1; the P-value was 0.020 which was less than 0.05 and the 95% confidence interval for the odds ratio (1.221388; 10.6837) did not contain 1. Hence, the variable MaritalStatus was highly influential over the ownership of household assets. We then tested the reliability of the fitted line of regression on the model. The reliability of the fitted line of regression can be assessed by using the classification table and the Hosmer-Lemeshow goodness-of-fit test. The classification table is as indicated in table 5. The fitted model revealed that it was highly sensitive (86.21%). In other words, we conclude that the model was good for identifying the respondents who owned household assets through micro-finance activities. On the one hand, the fitted model revealed that it was moderately specific (58.54%). In other words, the model was good for identifying the respondents who owned household assets through micro- finance activities. The overall percentage of correct classification of the fitted Binary Logistic Regression model is 74.75%. Finally, table 6 shows the Hosmer-Lemeshow goodness-of-fit test which we also conducted.

6. Conclusion and Implications

Makululu households experienced food poverty more than all the other forms of poverty combined. This is because all the households in this compound relied on over-the-counter purchased food which is expensive to afford. Either as

perception or empirical, there is sufficient evidence that microfinance adoption alleviated poverty amongst microfinance adopting households. Based on perceptions of the adopters of microfinance, adopters concluded that their household income, access to healthcare, access to formal school education for their children, profitability of their micro businesses and skills development and proficiency all improved as a result of microfinance adoption. On the one hand, the paper concludes that prospects of moving out of poverty increased with microfinance adoption - and such prospects were enhanced through the marital status of the adopter of microfinance, the length of membership in microfinance activities, access to education, access to healthcare and increased household income as revealed by the empirical model. One crucial conclusion of this paper is that the adopters of microfinance in this study area were less-risk factor because they were able to service their loans timeously and furthermore to that they were easily manageable because of their group-based method of dispensing loans. In addition, the adopters have also been very consistence by staying longer with the programme. However, the shortcoming has been that microfinance activities have primarily concentrated on offering credit to the adopters without providing other crucial services such as savings, money transfers and insurance amongst others.

7. Recommendations

It would be in the best interest of the households to be provided with some garden space by the local municipality to produce own food. Considering the overwhelming evidence of the impact of microfinance on poverty alleviation in this area, we recommend that access to microfinance services be made available to a greater number of people – including men and the youth by recruiting more people to join the programme through public education campaigns and information access. So far, the focus is very much on women. The fact that the majority of the adopters were “*unbanked*” with no savings accounts with commercial banks despite some of them running profitable enterprises in addition to microfinance income is cause for concern for local economic development. Government authorities and any other microfinance service provider should look at improving the savings part of micro-finance by educating the adopters on the benefits of savings – to the extreme introducing the so-called compulsory savings for all members. In addition, service provider of microfinance institutions should provide relevant banking infrastructure closer to the adopters to encourage saving and other associational services. As a matter of policy, financial institutions should be compelled to bring their services closer to the people. Operationally, financial systems such as banks providing microfinance service might service the respective areas by establishing mobile community-based customer centres for example. This might start as periodic service with service providers moving from one end of the area to the other on specific days and so forth.

References

- Agresti, A. (1996). An introduction to categorical data analysis. Wiley-Interscience Publication. New York.
- Bahta, S.T. & Bauer, S. (2007). Analysis of the determinants of market participation within the South African subsistence communal livestock sector. *Tropentag*. 9-11 October.
- Balogun, O.L. & Yusuf, S.A. (2011). Determinants of demand for micro-credit among the rural households in South-Western States, Nigeria. *Journal of Agricultural and Social Sciences* (7)2:41-48.

- Brune, A. (2009). An empirical study on the impact of microfinance institutions on development. *BA Dissertation*, University of Zurich, Switzerland.
- Calice, P., Chando, V.M. & Sekloua, S. (2012). Banking to Small and Medium Enterprises in East Africa: Findings of a survey in Kenya, Tanzania, Uganda and Zambia. Working Paper Series, African Development Bank.
- Chan, S.H. & Ghani, M.A. (2011). The impact of micro-loans in vulnerable remote areas: evidence from Malaysia. *Asia Pacific Business Review* 17(1):45-66.
- Chawdhury, A.C., Ghosh, D. & Wright, R.E. (2002). The Impact of Micro-credit on Poverty: Evidence from Bangladesh.
- Chiumya, C. (2004). Banking sector reform and financial regulation: Its effects on access to financial services by low income households in Zambia. *Public Policy Working Paper Series*, Paper No.13. University of Manchester, Manchester, England.
- Durrani, M.K.K., Usman, A., Malik, M.I. & Ahmad, S. (2011). Role of Micro Finance in Reducing Poverty: A Look at Social and Economic Factors. *International Journal of Business and Social Science* (2)21. Special Issue.
- empowering women in Cairo, Egypt. Masters Dissertation, University of Agder, Egypt.
- Fischer, I. & Buchenrieder, G. (2010). Risk management of vulnerable rural households in Southeast Asia. 9th European IFSA Symposium, 4-7 July. Vienna, Austria.
- Francis-Chizororo, M. 2008. The formation, constitution and social dynamics of orphaned child headed households in rural Zimbabwe in the era of HIV/AIDS pandemic. PhD Thesis. University of St Andrews.
- Galema, R.J. (2011). Microfinance as a Socially Responsible Investment. PhD Thesis, University of Groningen, Groningen, The Netherlands.
- Haile, A. (2003). The impact of microfinance in Ethiopia. The case of DECSI in Ganta-Afeshum Woreda of Eastern Tigray. Masters Dissertation, Addis Ababa University, Addis Ababa.
- Haile, H.B. (2010). Targeting married women in micro-finance programmes: Transforming or reinforcing gender inequalities? Evidence from Ethiopia. PhD Thesis, Wageningen University, The Netherlands.
- Jegade, C.A., Kehinde, J. & Hameel, A.B. (2011). Impact of microfinance on poverty alleviation in Nigeria: An empirical investigation. *European Journal of Humanities and Social Sciences* (2)1:97-111.
- Kausar, A. (2013). Factors affecting microcredit's demand in Pakistan. *International Journal of Academic Research in Accounting, Finance and Management Sciences* 3(4):1-17.
- Khandker, S. (1998). Fighting poverty with microcredit: Experience in Bangladesh, Oxford University Press for the World Bank.
- Khavul, S. (2010). Microfinance: Creating opportunities for the poor? *Academy of Management Perspectives*: 57-71.
- Kherallah, M., Delgado, C., Gabre-Madhin, E., Minot, N. & Johnson, M. (2000). The road half travelled: Agricultural market reforms in Sub-Saharan Africa. Food Policy Report. International Food Policy Research Institute, Washington DC.
- Kiiru, J.M. 2007. The impact of microfinance on rural poor households' income and vulnerability to poverty: case study of Makueni District, Kenya. PhD Thesis. Rheinischen Friedrich-Wilhelms Universität, zu Bonn.
- Leikem, K. (2012). Micro-finance: A tool for poverty reduction? Hons Dissertation, University of Rhode Island.
- Li, X. (2010). An empirical analysis of microcredit on China rural household, PhD Thesis, Lincoln University.
- Littlefield, E., Morduch, J. & Hasheni, S. (2003). Is micro-finance an effective strategy to reach the Millennium Development Goals? Focus Note 24.
- Lopa, C.K. (2009). Microfinance Institutions and Microcredit to small-scale Business: The case of the Copperbelt Province. MBA Dissertation, Copperbelt University, Zambia.

- Lumumba-Kasongo, T. (ed). 2005. *Liberal democracy and its critics in Africa. Political dysfunction and the struggle for Social Progress*. CODESRIA. Dakar.
- Mafukata, M.A. (2012). Commercialisation of communal cattle-production systems in the Musekwa Valley. Unpublished PhD Thesis, University of the Free State, Bloemfontein.
- Matovu, D. (2006). Micro-finance and Poverty Alleviation Uganda. *Africa and International Development Cooperation*, 1-64.
- Milan, F.M. (2012). Social performance of micro-finance institutions: Theory and empirical evidence. PhD Thesis, University of Hohenheim.
- Mosley, P., & Hulme, D. (1998). Micro-enterprise finance: Is there a trade-off between growth and poverty alleviation. In Workshop proceedings "Recent research on micro-finance: Implications for policy," University of Sussex, United Kingdom.
- Mulunga, A.M. (2010). Factors affecting the growth of microfinance Institutions in Namibia. Masters Dissertation, Stellenbosch University, Stellenbosch.
- Mustapha, Z. & Ismailov, N. (2008). Entrepreneurship and micro-finance: A tool for empowerment of poor – case of Akhwat-Pakistan, Masters Dissertation, Malardalen University, Pakistan.
- Obeng, C.K. (2011). The impact of micro-credit on poverty reduction in rural areas- a case study of Jaman North District, Ghana. CEMBA Dissertation, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
- Odell, K. (2010). Measuring the impact of microfinance. Taking another look. Grameen Foundation, USA.
- Pitamber, S. (2003). Factors Impeding the Poverty Reduction Capacity of Micro-credit: Some Field Observations from Malawi and Ethiopia . Economic Research Papers No.74. African Development Bank.
- Pitt, M. M. & S. R. Khandker. (1998). The Impact of Group Based Credit Programs on Poor Households in Bangladesh: Does the Gender of Participants Matter? *Journal of Political Economy* (6)5, University of Chicago.
- Pote, P.P.T. 2008. Technical constraints to smallholder agriculture: Case study of Nkokobe Municipality, Eastern Cape, South Africa. MSc Dissertation. University of Fort Hare, Alice.
- Pretes, M. (2002). Microequity and microfinance. *World Development* 3(8): 1341-1353.
- Pretes, M. (2002). Microequity and Microfinance. *World Development* (30) 8:1341–1353.
- Silima, V. (2007). A review of stakeholder interests and participation in the sustainable use of communal wetlands: The case of the Lake Fundudzi catchment in Limpopo Province, South Africa. Masters Dissertation, Rhodes University. Grahamstown.
- Taha, S.G.A. (2012). The effectiveness of microcredit programmes on alleviating poverty and
- Wanambisi A.N. & Bwisa, H.M. (2013). Effects of microfinance landing on business performance: A survey of micro and small enterprises in Kitale Municipality, Kenya. *International Journal of Academic Research in Business and Social Sciences* (3)7:56-67.