ASSESEMENT OF THE IMPACT OF PARTICIPATORY VILLAGE DEVELOPMENT IN ISOLATED AREAS (PaViDIA) IN KAPATU BLOCK OF MPOROKOSO DISTRICT

A Research Report presented to the Department Of Agricultural Economics And Extension of The University of Zambia

By

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LIST OF ABBREVIATIONS

PaViDIA	Participatory Village Development in Isolated Areas
MPs	Micro Projects
PASViD	Participatory Approaches to Sustainable Village Development
JICA	Japan International Cooperation Agency
SAO	Senior Agricultural Officer
CEO	Camp Extension Officer
SIGA	Seed Income Generating Activities
SSF	Small Scale Farmers
MACO	Ministry of Agriculture and Cooperatives
MDGs	Millennium Development Goals
IGAs	Income Generating Activities
JCTR	Jesuit Center for Theological Reflection

ABSTRACT

Assesement of the Participatory Village Development in Isolated Areas (PaViDIA) among the beneficaries In Kapatu block of Mporokoso District

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The University of Zambia, 2015 **Mr. F. Maimbo**

The study was conducted in Mporokoso District to assess the impact of the Participatory Village development in Isolated Areas. The study aimed at assessing the difference between the beneficiaries and non-beneficiaries of the project in terms of food security and income improvements. Information from both secondary and primary sources was used and analyzed in descriptive analyses of SPSS.

The study revealed that most of respondents had low education levels for which their average level was primary education. Majority of the non-beneficiaries had 2 meals per day representing 63.3% while beneficiaries had 3 meals per day representing 70.0%. 63.3% of non-beneficiaries did not have enough food per meal whereas 83.3% of the beneficiaries had enough food per meal. Further, it was found that 41.7% of non-beneficiaries and only 20.0% beneficiaries had some shortages of food for the past 3 years of their living.

Income levels for the respondents was assessed and it was found that most non-beneficiaries earned below 2,500ZMK in comparison with beneficiaries who earned between 2,500 to 5,000ZMK for the last 12 months. Assessment on value of assets revealed that most non-beneficiaries owned assets worth 1,750ZMK and beneficiaries had asset value worth 2,780ZMK on average per household. The houses of most respondents were thatched and built with local materials. However 13.3% non-beneficiaries and 45.0% beneficiaries lived in iron roofed houses built with burnt bricks.

These findings were tested to note any significant difference among respondents using Pearson Chi square statistical tests at 95.0% confidence level in descriptive statistics of SPSS and results proved that PaViDIA had an impact on beneficiaries.

PaViDIA improved beneficiaries food security and income in Kapatu Block, thus it is recommended that PaViDIA or any participatory related Projects should be introduced in many other isolated areas of Zambia.

CHAPTER 1: INTRODUCTION

1.1 Background

Three quarters of the world's poorest, especially those living below the poverty line of US$ 1 a day, live in rural areas. In Sub-Sahara Africa, the figure rises above 70% with some countries such as Zambia registering levels above 80%. Despite being part and parcel of mainstreaming developmental activities for many years.

These rural areas targeted development activities have used a variety of approaches to try and attain their objectives. They include Integrated Rural Development (IRD) Programmes and different types of participatory approaches such as Participatory Rural Appraisal (PRA), Participatory Learning and Action (PLA) and many others including PaViDIA. Participatory approaches were first introduced in the rural development programmes in the 1970`s.

In spite of these efforts, rural areas have so far not been adequately developed due to a number of reasons, among them those of agricultural and economic nature. Consequently, this situation has contributed towards the emigration of sections of the rural population, especially the younger generation, to the urban areas. One of the causes of this phenomenon is the availability of employment and other economic and social opportunities in the urban as opposed to rural areas. The emigration of able bodied rural youth has exacerbated the stagnation of the rural economy which is characterized by low productivity and low product prices, in turn accelerating this manpower outflow. In addition, public support for the agricultural sector, including land reform and improvement of infrastructure, has been slow and inadequate.

Some of the efforts to fight hunger and famine have however yielded success stories and many useful lessons have been learnt from the unsuccessful efforts. Nevertheless, there has been inadequate feedback from rural development programmes, and this has consequently contributed towards the high rural poverty levels which persist in many developing countries today.

Poverty is the most profound challenge that Zambia faces today. It is a social crisis with the majority of people denied a minimum decent living standard. The latest Jesuit Center for Theological Reflection (JCTR) (2014) Monthly Food Basket Survey shows that it is becoming more and more difficult for the majority to meet basic needs, because food costs have been rising while wages remain static and too far below the food cost. The gravity of the situation is such that more and more lives are being lost due to hunger, sickness and disease including HIV/AIDS.

The rural people of Zambia, who make up 61% of the total population, have remained predominantly poor since independence, with an overall poverty level of about 73% compared to 53% of their urban counterparts. Two thirds of the rural poor (Mungalaba, 2007). The preceding analysis indicates that poverty remains concentrated in rural areas of which the majority of the households depend entirely on agriculture for their living and it is for this reason that agriculture is their main tool for survival .It is for this reason that any discussion of social class and mobility would not be complete if poverty is not discussed. **Poverty is stated** as "a condition characterized by severe deprivation of basic needs such as nutritious food, safe drinking water, shelter, education, sanitation facilities, good health and information." Therefore high poverty levels in rural areas could be as a result of not having enough food by the majority of the households due to the fact that the farming community in Zambia faces many challenges that affect the overall output of which worst hit are the small scale rural based farmers.

Small Scale Farmers (SSF) in isolated rural are faced with a number of challenges which have a profound effect to their food security and among the challenges, it includes; lack of access to basic services such as credit facilities, extension services, poor infrastructure, inputs in terms of access and untimely delivery of the agricultural inputs, absence of agro storage and marketing facilities, additionally to this is access to good road networks which results in not linking the rural areas to their closer towns. Henceforth, in order to combat the problem of poverty in rural areas and address some of these challenges among the small scale rural farmers, in 1999 the Zambian government submitted a request to the Japanese government for technical cooperation for isolated area development with emphasis on the

participatory development method and sustainable agricultural techniques (kitanaka *et al*, 2005)

Participatory Approach to Sustainable Village Development (PASVID) seeks to provide answers to these questions and challenges. In short, PASVID is one of the effective tools for rural development in Sub-Sahara Africa. PASVID has been reviewed and redeveloped in Zambia by PaViDIA (Participatory Village Development in Isolated Areas) project. The PaViDIA project has been implemented since 2002 through Cooperation between Ministry of Agriculture and Cooperatives (MACO) and Japan International Cooperation Agency (JICA).

The ministry of agriculture and cooperatives (MACO) with the Japanese International Cooperation Agency (JICA) technical and financial support was the implementer of the project which was aimed to build capacities of farmer and its related organizations by facilitating participatory village development major projects (MPs) in Chongwe district of Lusaka province which was a pioneering area which later expanded the outreach to as far as northern province in Mporokoso district among other areas. PaViDIA aimed at reducing poverty through food security and by invigorating local economy of village communities in isolated areas (PaViDIA, 2007). To achieve this objective, effective extension services were required under which the extension workers could facilitate farmer's ownership of rural development while providing sustainable agriculture techniques for the small scale farmers.

PaViDIA applied the Participatory Approach to Sustainable Village Development (PASViD) to villages in isolated areas to achieve its objectives. The aim of the PASViD is to develop a prosperous and autonomous village with rural amenities through implementation of a Micro Project (MP). To explain what a prosperous village is, PASViD lists out six areas as developmental objectives:

- Poverty alleviation
- Economic expansion
- Stabilization of food production
- Environmental conservation

- Creation of amusement, and
- Restoration of self-confidence, pride and dignity of the village community.

The main objective of PaVIDIA is to improve the lives of vulnerable groups, such as the poor, women, disabled and landless by involving them in all stages of the Micro Project and thus creating in them total ownership of their development activities, strengthening the villager's capacity, fostering mutual-reliance, prospering the village economy, reinforcing social infrastructure, conserving the environment and tradition, and co-existing with urban development.

The research was mainly about the assessment of the impact of Participatory Village Development in Isolated Areas (PaViDiA) in Kapatu block of Mporokoso district. The project was implemented in all the 4 blocks namely; Chitoshi, Kapatu, Mporokoso Central and Mwange. The project's main objective was to help the local people in improving their living standards through various micro projects (MPs) which were chosen by the local people. The project was managed by the project main committee and the headman as the overseer of the project in the village. PaViDIA encouraged Villagers' participation in the implementation of MPs so that ownership of village development, mutual reliance and self-reliance among the village communities could be nurtured. Villagers' participation started from planning of the MPs to evaluation of their developmental activities (PaViDIA, 2007)

The MPs composed of three components namely;

- agricultural oriented Income Generating Activities (IGAs) with seed money
- Infrastructural development to support IGAs with wisdom, knowledge and strength of village community and
- Training for the IGAs, in order that villagers may gain skills and knowledge of enterprises, financial management and marketing strategy.

1.2. Problem statement

In Zambia, approximately 70% of its total population live below the national poverty line, of which 70% in rural areas. Zambia has a two-layered structure comprising of large and medium-sized farm households that produce crops for export under capital-intensive farm

management and small-sized farm households that are engaged in self-supply farming (accounting for 90% of total farm households). Hence, the Zambian government emphasizes rural development with a focus on small-sized farm households for poverty reduction as its priority policy issue. In particular, small-sized farm households in so-called "isolated areas" are under additional strain due to the liberalization of agriculture-related services carried out in line with structural adjustments. In other words, they are faced with further deterioration in farm management due to scarce deliveries of the services transferred to the private sector in addition to the steep rise in production input prices and the abolition of subsidies.

Against this backdrop, the Zambian government requested the Japanese government to provide project-type technical cooperation with the aim of alleviating poverty among small farm households in isolated areas. This would be achieved by introducing a participatory rural development method and sustainable agricultural technologies. This project addressed the issue of poverty in the least accessible areas of the least developed country in Africa of which Zambia was not an exception.

Many international Agricultural Agencies and development Organizations claim to have made some progress in improving agriculture and livelihoods of small scale farmers, but this still remains a grave need for agricultural development programmes such as those that do with poverty reduction, agricultural research and extension to provide more documentation of the project outcomes especially those concerned with more than 75% of the world's poor farmers (Taylor, 1998).

Despite implementation of various poverty related agricultural programmes and having recorded some success in Zambia, several weaknesses and constraints still remain, including continued vulnerability of national food self-security, low competitiveness, lack of enabling environment, and poor infrastructure (CSPR, 2006).

However, although there are some significant positive impact of the project, the accomplishment of the overall goals and objectives of the project is not yet well known (Kitanaka et al, 2005). Henceforth, there hasn't been any known study to determine the impact of the project on the participants since the inception of the project in Kapatu block. Therefore there is an information gap on the knowledge regarding the actual contributions

of the project on poverty reduction and enhancing the development of the village economy in Kapatu block.

1.3 OBJECTIVES

1.3.1 General objective

To assess the impact of PaViDiA among small scale farmers in Kapatu block of Mporokoso district.

1.3.2 Specific objectives

- To determine if there has been any difference on food security between non-beneficiaries and beneficiaries
- To determine income improvements among the participants.

1.4 Hypothesis

- **Alternative hypothesis**

PaViDIA did not have an impact on the project participants in Kapatu block.

- **Null hypothesis**

PaViDiA had impact on the project participants in Kapatu block.

1.5 Significance of the study

PaViDiA as a project supported programmes like cattle rearing and animal draft power, integrated fish farming, poultry, piggery, goat rearing, maize and beans production and these are important in the following ways; Manure from poultry, piggery, goats and cattle can be used to improve soil fertility, use of animal draft power can increase production and productivity, increase the levels of food security, nutrition and source of income to the at household levels. According to Beard (2007), critical to the success of the community development is how much power the community has to participate in its own developments. In addition to this, studies have shown that involving rural people in planning their own community development is effective and necessary if rural development is to be attained. Thus this study will enable us to find out whether the strategy for

increasing rural incomes and food security was attained among the participants or beneficiaries of the project in Kapatu block. This will also enable us identify the problems that constrained or enabled the desired changes in the block with the introduction of the project.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on the sustainable approach, some definitions and concepts of participation, some findings of other scholars and also on the poverty levels in Zambia.

2.2 Research and Extension

At Independence in 1964 the Department of Agriculture undertook responsibility for extension and research on a National basis. In the First National Development Plan the Government diversified the economy from excessive reliance on copper through establishment of National Cooperative movement and managed settlement schemes on state and cooperative ranches and dairy farms.

While in the Second National Development Plan, emphasis was diverted to setting provincial priorities and providing a range of services and incentives to family farmers. The Third National Development Plan launched in 1979, focused on the rural sector with particular emphasis on small holder and subsistence farmers.

The Fourth National Development Plan, put further emphasis on small scale farmers by deliberately endorsing policies that aimed at among others, developing and disseminating their appropriate technological packages. In line with these policies, the T and V system of extension management was formally adopted as a means of conveying innovations to farmers and adaptive research was emphasized as an appropriate linkage between research, extension and farmers. The transfer of such services and technologies from research to farmers via extension branch was a Top-Down approach. It may have been appropriate but likely not sustainable. (National Extension Action Plan by Ministry of Agriculture, 1991).

Agricultural research and extension services have a central role in facilitating through the development of appropriate production recommendations and the transfer of new technology to farmers. Without local research support, agriculture will remain traditional with low yields and low productivity. (pg 6: Agricultural training-the training and visit system by Daniel Benor, James Harrison, Michael Baxter 1984).

This feedback function of extension facilitates the continuous reorientation of research towards the priority needs of farmers and early resolution of important technological constraints. Without extension's guidance, farmers often are unable fully to exploit the opportunities available to them. (pg 9: Agricultural training-the training and visit system).

In early 21st century the member states of the United Nations adopted the Millennium Declaration as a renewed commitment to human development. The declaration includes eight Millennium Development Goals (MDGs), each with quantified targets to motivate the international community and provide an accountability mechanism for actions taken to enable millions of poor people to improve their livelihoods. (http.//www.un-org/millennium/declaration/ares552.htm).

Zambia was once classified as a middle-income country. Three decades of economic decline and neglect of infrastructure and services have turned it into an extremely poor country. Most Zambians live in poverty, whereby three out of four people are extremely poor and unable to meet their minimum nutritional needs. Thus, a necessary component in meeting the MDGs by 2015 in many parts of the world is a more productive and profitable agricultural sector. While the linkage with agriculture is particularly for the first MDG, halving by 2015 the proportion of these suffering extreme poverty and hunger, all MDGs have direct or indirect linkages with agriculture. Agriculture contributes to MDG 1 through agriculture-led economic growth and through improved nutrition. In low-income countries economic growth, which enables increased employment and rising wages, is the only means by which the poor will be able to satisfy their needs sustainably. Agriculture contributes to empowerment of women farmers through reduction of the time burden on women for domestic tasks. Agriculture contributes to reduced child mortality indirectly by increasing diversity of food production and making more resources available to manage childhood illness. Agriculture also helps to combat HIV/AIDS, malaria and other diseases through higher quality diets. Agriculture practices can be both direct causes of and important solutions to environmental degradation. (World Bank, 2000/2001)

2.3 Poverty in rural areas

About 70% of the MDGs target groups live in rural areas, particularly in Asia and Africa, and for most of the rural poor, agriculture is a critical component in the successful

attainment of the MDGs. Even though structural transformations are important in the longer term, more immediate gains in poor households' welfare can be achieved through agriculture, which can help the poor overcome some of the critical constraints they now face in meeting their basic needs. In Zambia, the poverty rate under non-agricultural practices would still be 68% by 2015, only 7% points lower than the current poverty rate of 75% (early 2014). Annual Gross Domestic Product (GDP) growth of 8.8% would be required to halve poverty by 2015. Although agriculture accounts for only 25% of GDP, it is still the main source of livelihood for the majority of the country's population, including the majority of Zambia's poor who live in the rural areas where the incidences and severity of poverty is greatest. More rapid productive growth under the Agriculture-Led Growth Scenario would lead to higher sectorial growth for both staples and export crops. Under a focus on non-Agricultural growth, rural households would benefit from increased demand in urban areas, but the overall effect on poverty would be relatively small. Agricultural processing within the manufacturing sector, however, does in fact represent a potential area for growth and poverty reduction. The changes in agricultural and complementary social indicators result in a reduction in total child malnutrition from 24% under business-as-usual in 2015 to 17% under the MDG scenario, a reduction from 131 million children to 91 million children. (http//www.google.com/?=mill)

2.4 Causes of poverty

Poverty in Zambia can be attributed to several factors. Geographical and social factors are the main causes of poverty in rural Zambia. The country has most of the areas isolated, which limits access to service, markets, technical knowledge and productive assets. The incidence of rural poverty is prevalent in areas that are far from the line of rail. Right now Zambia is undergoing a difficult period of transition from a state-led economy to a free market economy. Economic decline has made it impossible for the government to maintain previous levels of public services. The agriculture sector which was once supported by the government has been neglected for several decades. Without effective extension services and access to inputs such as fertilizers and seed, small-scale farmers have fallen back into subsistence farming, who often struggle to meet their basic needs (food).

The neglecting of the agriculture sector also led to the spread of livestock diseases in the 1990s. In the past the government ensured that preventive measures, such as dipping programmes, were carried out to protect livestock from diseases. But when the country was liberalized in the 1990s,these services were done away with, leading to many parts of the country getting many diseases from neighboring countries, thereby destroying about half of the country`s livestock. Due to the loss of livestock many small-scale farmers were affected like the herders who depend on animal draft power to cultivate their fields and the manure used in their fields as fertilizer. Farmers who cultivate their fields using hand hoes plant considerably less and are often chronically food insecure. At present small-scale famers do not have access to financial services. Some factors that also cause poverty come in a shock like drought of which the nation can do nothing about it (www.ruralpovertyportal.org).

2.4. Effects of poverty

Poverty has very serious effects. Children who grow up in poverty are more prone to suffer persistent, frequent and severe health problems than children who do not grow up in poverty. There are many cases of low birth weight in infants born in poverty which is associated with many preventable mental and physical disabilities. These infants are not only more likely to be irritable or sick, but are most likely to die before their first birthday. Most children raised in poverty miss school a lot due to different illnesses caused by lack of quality health services in the rural areas. These children are twice as likely to have impaired vision and hearing, iron deficiency anemia and these can lead the brain being impaired.

It is difficult to move out of poverty for everyone, perhaps because at its worst, poverty can become a self-perpetuating cycle. Poverty stricken children are at extreme disadvantage in the job market, in turn, the lack of better jobs ensures continued poverty. The poverty cycle ends up repeating itself until the pattern is somehow broken (World Bank, 2000/2001).

2.5 Government`s response to poverty

Government of the republic of Zambia has been implementing projects which are aimed at reducing poverty and by so doing strengthening food security. In July 2000, the Zambian government officially launched its first poverty reduction strategy paper (PRSP), for the

period 2000-2004.The strategy recognized that little can be achieved to reduce poverty unless measures are taken to revive Zambia's economy. Hence economic diversification was considered as the key to reviving the economy with agriculture and tourism being given priority (J.S.Mulungushi, 2006).

The overall objective of the Zambian government is to reduce poverty both in urban and rural areas in the country. Due to the efforts made by the public and private sectors, the number of people living under poverty line has decreased. However, 68% of the populations still fall below the national poverty line earning less than K111.747 per year. Poverty in rural areas stood at 78% in 2004.This was much higher than the poverty in urban areas which was 53%.

The project for Participatory Village Development in Rural Area (PaViDIA) was initiated in order to establish a practical model for village development in isolated areas. The main aim of the project is to help reduce poverty and hunger in some isolated areas in Zambia (H.Kanazawa et al 2008).

2.6 Definitions and concepts of participation

The definitions and concepts of participation in development have evolved over time. The roots can be traced back to community and popular participation, promoted by th NGOs in 1950s and 1960s. In the early 1970s and 1980s, multilateral agencies such as FAO and International Labour Organizations (ILO) also began to promote popular participation in development projects and programmes (Rudqvist and Woodford Berger 1996).

There has been a growing emphasis on the empowerment of people, a concept that has been widely promoted by NGOs (Oakley and Marsden, 1984). Some development agencies see it basically as access to control over resources, or as a way of releasing human energies and enlarging talents and potential (Uphoff, 1992). Popular participation can be interpreted along three broad lines (Oakley 1991)

- Participation as contribution, i.e. voluntary or other forms of input by rural people to predetermined programmes and projects.
- Participation as organization, either externally conceived or emerging as a result of the process of participation.

- Participation as Empowerment, enabling people to develop skills and abilities to become more self-reliant, and to make decisions and take actions essential to their development.

Participation in development project is seen both as a means and an end. Many development agencies give equal weight to both, so emphasize one or the other aspect of participation (Rudqvist and Woodford-Berger 1996) participation as a means is a process in which people and communities cooperate and collaborate in development projects and programmes. (Clayton et al 1998)

As an end, participation is seen as the empowerment of individuals and communities in acquiring skills, knowledge and experience, leading to a self-reliance. (Clayton et al 1998).

In the complex socio-political environments, the concept of participation has increasingly come to include "involvement of local institutions and civil society in a power-sharing scheme based on negotiation and conflict management" (Warren, 1998).

2.7 Significance of the participatory approach in village development

Studies have revealed that involvement of the rural people in participatory projects is efficient and necessary to achieve community development. The rural households who are sometimes referred to as peasants, as they are rarely prosperous, often lead precarious existences and include some of the poorest people in the world. Therefore, unless they are allowed to participate in their own community development, the project efforts will not result into the desired benefits.

The other significance of participation in development is to improve effectiveness of development efforts and sustainability. According to (Bhatnagar and Williams, 1992) participation should improve chances of the project being sustainable because people are more likely to be committed to carrying on the activity after aid stops, and more able to do so given that participation itself helps develop skills and confidence. Bhatnagar and Williams, 1992 added that participatory approaches should allow government to:

- More accurate and representative information about the needs, priorites, and capabilities of the local people, and the impact of the government initiatives and programmes.
- Adapt programmes to meet local conditions so that scarce resources can be employed more effectively
- Deliver better quality and demand responsive services
- Mobilize local resources to augments or even substitute for scarce governmental resources
- Improve utilization and maintenance of government facilities and services.
- Improve public recognition of governmental achievements and legitimacy.

CHAPTER 3: RESEARCH METHODOLOGY

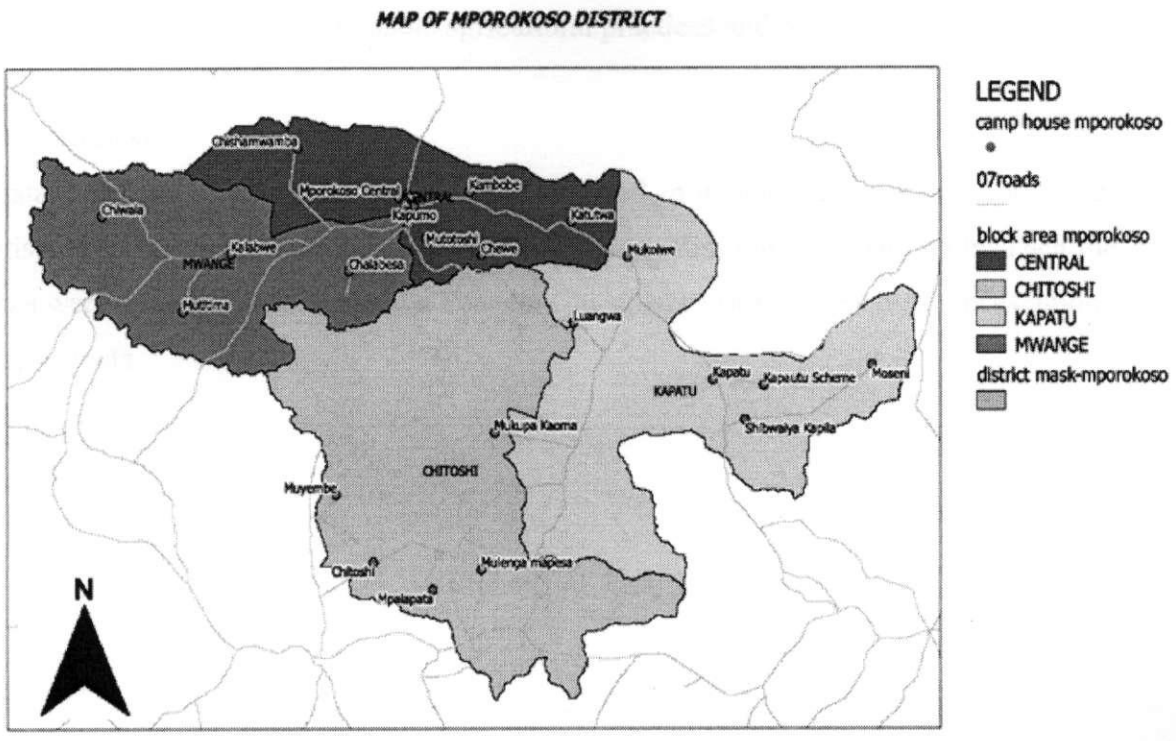
3.1. Introduction

This chapter will highlight the research methodology that will be used. This chapter will be subdivided into seven sub-sections as follows; Location of Kapatu Block, Research Design, Population, Sample Size, Sampling Procedure and Data Collection Instruments.

3.2. Location of Kapatu Block

The research will be conducted in Kapatu block which is located about 50Km from Mporokoso Boma. The block has 5 camps which constitutes; Shibwalya Kapila, Kapatu, Moseni, Luangwa and Kapatu Scheme. The research will be concentrated in all the camps for the all camps participated in the project (PaViDIA) implemented. The area (block) receives on average about 1200mm of rainfall annually and is characterized by acidic soils due to heavy rains.

Figure 1: Geographical Location of Kapatu Block in Mporokoso District



3.3 Sample

A sample of 120 farm households composed of 60 beneficiaries and 60 non beneficiaries was selected from the population comprising of all small scale farmers in Kapatu block. With regards to this study, a small scale farmers is described as someone who cultivates about five hectares on average per annum, one who uses traditional simple hand tools such as hoes, axes, might own or hire oxen and has no access to credit services from the formal institutions. The sample was selected from the camps of Kapatu block to ensure good representation of all categories of the household's characteristics of the block. A farm household will be used as a sampling unit of the study.

3.4 Data collection methods

Both primary and secondary data were collected in this research. Secondary data was collected using data sets that encompassed all the interested parameters as outlined in objects, whereas primary data was collected using a structured open and closed ended

questionnaire. The views and perceptions of beneficiaries based on the performance of the project introduced in their area regarding to reduction of poverty, improving household food security, promotion of sustainable agricultural practices and rural development.

3.4 Data analysis

The data collected were sorted, entered and analyzed in a Statistical Package for Social Scientists (SPSS) using descriptive analysis to develop cross tabs and bar charts. Then the findings were analyzed further using a Pearson Chi square test to assess differences among the respondents.

CHAPTER 4: STUDY FINDINGS

4.1 Introduction

The chapter is on study findings. It begins with the sample description upon which the findings are based and will end with the discussions, conclusions and recommendations.

4.2 Sample Description

The respondents in this study were categorized into two, i.e non-participants and participants of PaViDIA. The total sample collected was 120 respondents comprising of 60 non-participants and 60 participants. The average age of the respondents was above 40 years, of which most of them just manage reaching primary level of education.

4.3 Characteristic of Surveyed Respondents

The table below contains both secondary and primary data of the demographic variables for the respondents. From the data above, it can be noted that most of the variables are similar for both beneficiaries and the non-beneficiaries except for the gender of the household heads of which there were more male headed household participants than female headed households.

Table 1: Selected Characteristic of Surveyed Respondents

Characteristics	Beneficiaries	Non-beneficiaries
total number of respondents	60	60
Average age of household head	45.04	42.31
Average level of education	Grade 5	Grade 7
Highest level of education	College	College
Female headed households	18 (30%)	29 (48.33%)
Male headed households	42 (70%)	31 (51.17%)
Mean Household size	5.6	6.1
Maximum household size	13	11
Minimum household size	3	4

Source: own survey, 2015.

4.3.1 Education level of the Respondents

The highest level of education for majority of both respondents was primary education. This implied that the respondents had very low education levels which may had an impact in understanding the newly introduced agricultural technologies.

Table 2: Education level of the respondents

Education level	Non-participants	Participants	Total
Never Been to school	11	8	19
Grade 1	6	3	9
Grade 2	3	7	10
Grade 3	4	4	8
Grade 4	4	5	9
Grade 5	14	3	17
Grade 7	7	10	17
Grade 8	3	3	6
Grade 9	1	5	6
Grade 10	3	2	5
Grade 11	0	2	2
Grade 12	2	7	9
College	2	1	3
Total	60	60	120

Source: own survey, 2015.

4.3.2 Gender distribution of the respondents

Female headed households were 29 for the non-participants and 18 for the participants. Male headed households for non-participants were 31 and 42 for participants. After testing with Pearson Chi square, it was found that there was no significant difference based on the gender of the respondents to have an effect on the levels of performance between the two categories of respondents at a 95% confidence level with Pearson Chi-Square value, $\chi^2 = 4.232^a$ and $p < 0.04$.

Table 3: Gender of the respondents

Gender	Non participants	Percentage	Participants	Percentage
Female	29	48.3	18	30.0
Male	31	51.7	42	70.0
Total	60	100	60	100

Source: own survey, 2015.

4.4 Household food security

In this section, the household food security status for the non-participants is compared with that of the participants in terms of frequency of meals, quantity and hunger experience in the past 3 years so as to assess the extent to which the project contributed to the household food security of all the participants of PaViDIA.

4.4.1 Frequency of Meals per Day

The table below shows that 3 non-beneficiaries and 0 of the beneficiaries had one meal per day. Further, 38 non-beneficiaries representing 63.3% and 18 beneficiaries representing 30.0% had two meal per day. Finally, 19 non-beneficiaries and 42 beneficiaries had three meals per day.

Table 3: Frequency of Meals per Day

Number of meals per day	Non-beneficiaries	Percentage (%)	Beneficiaries	Percentage (%)
Once	3	5	0	0
Twice	38	63.3	18	30
Thrice	19	31.7	42	70
Total	60	100	60	100

Source: own survey, 2015.

The frequency of meals per day among the respondents was significantly different with Pearson Chi-Square statistic value; χ^2 =18.815[a] and $p < 0.001$ at 95% confidence level. Thus participants were better off than non-participants.

4.4.2 Quantity of Food per Meal

The table below shows the amount of food per meal for the respondents. 4 non beneficiaries and 1 beneficiary did not have enough food per meal. Further, 38 non-beneficiaries representing 63.3% and 9 beneficiaries representing 15.0% had slightly enough food per meal. Finally, 18 non beneficiaries and 50 beneficiaries had enough food per meal.

Table 4: Quantity of Food per Meal

Quantity of food per meal	Non-beneficiaries	Percentage	Beneficiaries	Percentage
Not enough	4	6.7	1	1.7
Slightly enough	38	63.3	9	15.0
Enough	18	30.0	50	83.3
Total	60	100	60	100

Source: own survey, 2015.

From the above analysis, results show that there was a significant difference in the amounts of food per meal among the respondents with Pearson Chi-Square statistic value of χ^2 =34.752[a] and $p < 0.001$ at 95% confidence level. Thus beneficiaries had reasonable amounts of food per meal than non-beneficiaries implying that the project had an impact.

4.4.3 The crops grown in the area among the respondents

Crop diversification in terms of growing trends among the respondents was another variable that was assessed to note if there was any significant difference among the respondents for it is a contributing factor to household food security among the respondents. Crop diversification is also a good indication of farmer's proper management

of soil (soil conservation) in relation to crop rotation which enables soil nutrient conservation as opposed to mono-cropping.

The table below shows crops grown among the respondents, it was found that there was no significant difference in crop diversification among the respondents at a 95% confidence level with a Pearson Chi-Square statistic value of, $\chi^2 = 6.833^a$ and $p = 0.23$, implying that the non-participants and participants of the project grew same kinds crops.

Table 5: Crops grown in the area among the respondents

Crops	Non-beneficiaries	Percentage (%)	Beneficiaries	Percentage (%)
Maize	27	52.9	24	47.1
Cassava	13	48.1	14	51.9
Beans	4	33.3	8	66.7
Groundnuts	7	87.5	1	12.5
Finger millet	6	42.9	8	57.1
Sorghum	3	37.5	5	62.5
Total	**60**	**50%**	**50%**	**100%**

Source: own survey, 2015.

4.4.4 Hunger experience in the Last 3 Years.

The respondents were also asked if they experience any food shortage for the past 3 years. According to the table below, 14 non-beneficiaries representing 32.3% had food shortages compared to only 1 beneficiary representing 1.7%. Further, 25 non-beneficiaries representing 41.7% rarely experienced food shortages as compared to 11 beneficiaries representing 18.3%. Finally, 21 non-beneficiaries representing 35.0% never experienced food shortages as compared to 48 beneficiaries representing 80.0%.

Table 6: Hunger Experience in the Last 3 years

Hunger experience	Non-beneficiaries	Percentage (%)	Beneficiaries	Percentage (%)
Often	14	23.3	1	1.7
Rarely	25	41.7	11	18.3
Never	21	35.0	48	80.0
Total	**60**	**100**	**60**	**100**

Source: Own survey data, 2015.

Therefore, it was found that there was a difference in hunger experience for the past 3 years among the respondents with a Pearson Chi-Square statistic value of $\chi^2 = 27.276^a$ and $p < 0.001$ at 95% confidence level. This implied that beneficiaries of PaViDIA were better off than the non-beneficiaries, hence the project had an impact.

4.5 Income Earned by the Household in the past 12 Months

The table below shows that 35 non beneficiaries representing 58.3% and 3 beneficiaries representing 5.0% earned below 2,500 ZMK. Further, 20 non beneficiaries representing 33.3% and 47 beneficiaries representing 78.3% earned between 2,500 to 5,000 ZMK. Finally, 5 non beneficiaries representing 8.3% and 10 beneficiaries representing 16.7% earned above 5,000 ZMK average income per household in the last 12 months.

Table 7: Average Income for the Past 12 Months

Average Income	Non-beneficiaries	Percentage (%)	Beneficiaries	Percentage (%)
Below 2,500ZMK	35	58.3	3	5.0
Between 2,500 and 5,000ZMK	20	33.3	47	78.3
Above 5,000ZMK	5	8.3	10	16.7
Total	**60**	**100**	**60**	**100**

Source: Own survey data, 2015.

From the above analysis, it was found that there was a significant difference in the average income earned among the respondents for the past 12 months with a Pearson Chi-Square statistic value of χ^2 =239.495[a] and $p < 0.001$ at 95% confidence level. Most of the non-beneficiaries earned below 2,500 ZMK while beneficiaries earned between 2,500 and 5,000 ZMK implying that the project had an impact.

4.6 Assets owned by Respondents and their estimated values.

The measure of the assets owned by respondents was important in this study for it is an indicator of the households' welfare. Lack of assets is associated with not only eligibility to participate in the project but also on the outcome variable (Fredu, *et al*, 2008)

Table 8: Assets Owned by the respondents

Assets	Non-beneficiaries	Percentage (%)	Beneficiaries	Percentage (%)
None	17	28.3	0.0	0.0
Bicycle	8	13.3	0.0	0.0
Solar panel	4	6.7	0.0	0.0
Phone	2	3.3	0.0	0.0
Bicycle and phone	10	16.7	25	41.7
Bicycle and solar panel	0	0.0	18	30.0
Solar panel and phone	14	23.3	12	20.0
Solar, phone and bicycle	5	8.3	5	8.3
Total	**60**	**100**	**60**	**100**

Source: own survey data, 2015.

The value of the assets owned by the respondents was values (on average) at;

Phone: 150 ZMK, Solar Panel complete set: 1,800 ZMK, Bicycle: 550 ZMK.

The table above, shows that 17 non-beneficiaries and 0 beneficiaries owned nothing. All of the beneficiaries owned at least two assets and it was found that the total value of assets for non-beneficiaries was significantly less than that of beneficiaries with a Pearson Chi-Square statistic value of $\chi^2 = 55.582^a$ and $p < 0.001$ at confidence level of 95%, implying that the project had an impact among the beneficiaries.

4.6.1 Livestock assets ownership

This is another variable that was assessed among the respondents for it attributes to the wellbeing of respondents. The table below shows that the average value of livestock assets owned by the beneficiaries was 57,630ZMK and for the non-beneficiaries was 34,750ZMK.

The value of other assets owned by the beneficiaries was 108,750ZMK while non-beneficiaries it was 70,250ZMK. The overall total for assets owned was 166,580ZMK for beneficiaries and 105,000ZK for the non-beneficiaries. Average values for the respondents per household was approximately 2,780ZMK for beneficiaries and 1,750ZMK for non-beneficiaries.

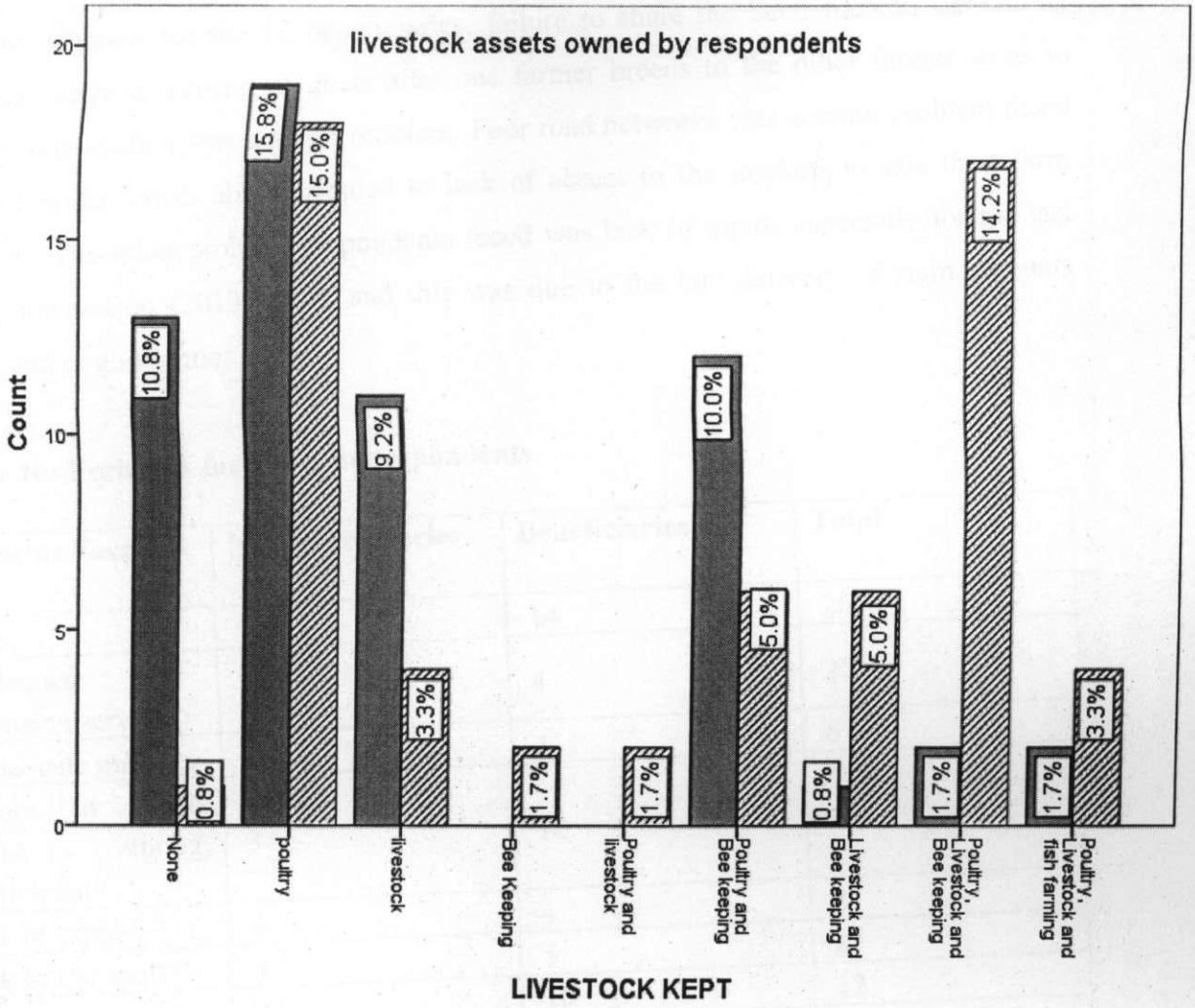
Table 9: Average value of assets

Asset type	**Beneficiaries**	**Non-beneficiaries**
Average value of livestock assets (ZMK)	57,630	34,750
Average value of other assets (ZMK)	108,950	70,250
Total value (ZMK)	**166,580**	**105,000**
Average value per household	≈2,780	≈1,750

Source: own survey data, 2015.

The histogram below, it also shows that beneficiaries own a number of livestock assets than non-beneficiaries.

Figure 2: Livestock Assets



Additionally, it was found that there was a significant difference of the total value of assets owned by the respondents with Pearson Chi-Square statistic value of $\chi^2 = 35.660^a$ and $p < 0.001$ at 95% confidence level. With these results, it shows that PaViDIA had an impact among the beneficiaries.

4.7 The most important problems faced by the respondents

The table below shows that 21 non-beneficiaries faced inadequacy of extension service and was due to lack of transportation to visit all the farmers located in distant places, in addition to this, lack of staff (extension officers) resulting to one extension officer being allocated a huge area to supervise and sensitize, whereas for the 12 beneficiaries, failure to share the

sensitize, whereas for the 12 beneficiaries, failure to share the Seed Income Generating Activities such as sharing of goats after one farmer breeds to the other farmer so as to promote one another was a major problem. Poor road networks was another problem faced by the farmers which also attributed to lack of access to the markets to sale their farm produce. The other problem respondents faced was lack of inputs especially for the last production season (2013-2014), and this was due to the late delivery of right amounts inputs and in good time.

Table 10: Problems faced by the respondents

Problems Faced	Non-beneficiaries	Beneficiaries	Total
None	12	14	26
inadequate extension service	21	4	25
inadequate markets	2	4	6
failure to share SIGA among participants	3	12	15
lack of capital	4	4	8
lack of transport	3	5	8
poor roads	2	10	12
lack of inputs	13	7	20
Total	**60**	**60**	**120**

Source: own survey data, 2015.

4.8 State of the infrastructure

The state of houses of the respondents was analyzed in terms of the building and roofing materials used. This variable is an indicator for wellbeing of the respondents, the table shows that 52 non-beneficiaries representing 86.7% and 33 beneficiaries representing 55.0% lived in thatched houses built with local material. Further, 8 non-beneficiaries and 27 beneficiaries lived in iron roofed houses built with burnt brick.

A significant difference was found on the state of houses among respondents with a Pearson Chi square value of $\chi^2 = 14.561^a$ and $p < 0.001$ at a 95% confidence level. Hence, the project had an impact on beneficiaries.

Table 9: Infrastructure State among the Respondents

Infrastructure state of house	Non-beneficiaries	Percentage (%)	Beneficiaries	Percentage (%)
Thatched and local material	52	86.7	33	55.0
Iron sheets and burnt bricks	8	13.3	27	45.0
Total	**60**	**100**	**60**	**100**

Source: own survey data, 2015.

4.9 Pearson Chi square tests Results for the Variables

The table below shows the significance of the variables tested using Pearson Chi square (χ^2) at a 95% confidence level to assess if there was any significant difference among non-beneficiaries and beneficiaries of the project. Most of the variables below were found to be significantly different among the respondent and only one variable (crops grown) tested to be not significantly different implying that the respondents did not differ in the kinds of crops grown.

Table 12: Significance of the Variables

Variable	Pearson Chi-Square statistic	P-Value	Confidence Level
Frequency of Meals Per Day	$\chi^2 = 18.815^a$	$p < 0.001$	**95%**
Quantity of Each Meal per day	$\chi^2 = 34.752^a$	$p < 0.001$	**95%**
Hunger experience in the Last 3 Years	$\chi^2 = 27.276^a$	$p < 0.001$	**95%**
Hunger experience in the Last 3 Years	$\chi^2 = 239.495^a$	$p < 0.001$	**95%**
Assets owned by the respondents	$\chi^2 = 55.582^a$	$p < 0.001$	**95%**
Livestock assets	$\chi^2 = 35.660^a$	$p < 0.001$	**95%**
Infrastructure State	$\chi^2 = 14.561^a$	$p < 0.001$	**95%**
Crops grown by respondents	$\chi^2 = 6.833^a$	$p = 0.23$	**95%**

Source: own survey data, 2015.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the conclusions made out of the findings of the study conducted in Kapatu block of Mporokoso district in Northern Province of Zambia. Recommendations are also included based on the objectives, conclusions and results obtained from the analysis of the study.

5.2 Conclusion

The study was aimed at determining any difference on food security between non-beneficiaries and beneficiaries and also to determine income improvements among the participants to which the project contributed as proxy of welfare of the respondent.

Findings of the study revealed that, the frequency of meals respondents had per day, amount of food per meal and hunger experience in the past 3 years were all significantly different among respondent. Therefore, it showed that beneficiaries of the project were better off than non-beneficiaries, hence the project had an impact on the beneficiaries.

The results obtained on average income earned by respondents for the past 12moths, value of assets and also infrastructure state of their houses, all proved that the beneficiaries of the project were better off than the non-beneficiaries due to the significant differences obtained on the tested variables using Pearson Chi Square test, implying that the PaViDIA had an impact on beneficiaries.

With regards to the problems faced by the respondents, it was found that there was no significant difference in the problems faced by respondents, for most of them were issues to do with the outreach of the respondents such as road networks, transportation, market access, access to inputs and extension services delivery as major problems.

Finally, it is assessed that the project had an impact on the beneficiaries based on the significant differences of the variables analysed using Pearson Chi-Square statistic tests at a 95% confidence level in descriptive analysis of SPSS and hence, I reject the null hypothesis that PaViDIA did not have an impact on the participants.

5.3 Recommendations

Findings of the study show that beneficiaries had higher incomes, for their farm incomes were complemented with a large proportion of off-farm income. Thus, an intervention to increase farmer's access to non-agricultural IGAs will markedly affect household income. As it was also observed by Mungalaba, 2007.

The study revealed that, education levels for the farmers were very low, hence it is important that some interventions to improve education levels of people in isolated areas should be undertaken, so as to increase household incomes and agricultural productivity.

Finally, farmers' participation in project like PaViDIA is of great importance, thus PaViDIA or similar participatory projects of village development should be introduced in many other isolated areas of Zambia in order to increase food security and income levels.

REFERENCE

1. Anholt, C. and Zijp, W. (1995), **Participation in Agricultural Extension.** Appropriate Technology International. The World Bank, Washington, DC, USA.
2. Central Statistical Office (2004), **Living Conditions Monitoring Survey IV**. Lusaka. Zambia.
3. L.J. Tembo. (2010), **An Evaluation of the Project for Participatory Village Development in Isolated Areas in Chongwe District**. Lusaka, The University Of Zambia.
4. Chambers, R. (1986), **Rural Development: Putting the Last First**. Longman Scientific and Technical. Consultative Group on International Agricultural Research Essex, England:
5. H.Kanazawa. Sekeleti and T.Miyoshi (2000) **PaViDIA Manual Volume 1**, Lusaka, Ministry of Agriculture and Co-operatives.
6. J.S. Mulungushi (2000). **Assessment of Poverty Reduction Strategies in Sub-Saharan Africa**: The Case Zambia.
7. The Government of the Republic of Zambia, the United Nations Conference on **Sustainable Development** – June. (2012), *2012*(May).
8. World Bank (2000/2001).**World Development Report, Attacking Poverty**.
9. http.//www.un-org/millennium/declaration/ares552.htm. Accessed on 05/02/2015 at 23:30
10. http://www.ruralpovertyportal.org/copyright. Accessed on 05/02/2015 at 23:30

11. Mangalaba. S, (2007), .**Empowerment of Rural Household in Zambia: the Project for Participatory Village development in Isolated Areas**. *Journal for Sustainable developments in Agriculture. Vol2, No 2.*

12. Project for participatory Village Development in Isolated Areas (PaViDIA), (2007), **PaViDIA Implementation Guidelines**, Japanese International Cooperative Agency (JICA) and the Ministry of Agriculture and Cooperatives. Lusaka Zambia.

13. Taylor. J.E. (1998), **An Exploratory Literature Review of Efforts to Help the Small-scale, Resource Poor farmers In International Agricultural Development**: Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for a degree of Doctor of Philosophy in Teaching and Learning.

14. Rudqvist. A (1992), "**The Swedish International Development Authority**: **Experience with Popular Participation**", World Bank Discussion Paper 183, Washington D.C, USA.

15. Uphoff. N (1992), "**Monitoring and Evaluating Popular in World Bank-Assisted Projects**" World Bank Discussion Paper 183, Washington D.C, USA.

APPENDICIES

1.0 Questionnaire

Questionnaire serial number: [| | |]

ASSESSIMENT OF THE IMPACT OF PARTICIPATORY VILLAGE DEVELOPMENT IN ISOLATED AREAS (PaViDIA) IN KAPATU BLOCK OF MPOROKOSO DISTRICT

Department of Agricultural Economics & Extension Education

The University of Zambia

This questionnaire is for academic purpose only. Be rest assured that all the information you provide will be treated as private and confidential as possible. Feel free to answer all the questions honestly. Your cooperation in this regard will be highly appreciated.

Instructions: Please write some answers in the boxes & blank spaces provided.

1. Farmer identification

1.1 District name: _____

1.2 Block name: _____

1.3 a) Name of farm owner _____

b) Sex of farm owner (0=Female; 1=Male) **sex** [ ]

1.4 Is the owner the main respondent? **Owner**[ ]

0 = No

1 = Yes

1.5 Education level of the respondent _____

CODES: none=0, primary & secondary levels= {1-12}, Tertiary edu; college=13, university =14

1.6 Are you a beneficiary of PaViDIA? _____

1=yes 0=No

2.0 Food Security Measures

i. Number of meals per day _____

1.One Meal

2.Two meals

3.Three meals

4.None

ii. Quality of each meal. _____

1. Enough
2. Slightly enough
3. Not enough

iii. Hunger experience (in the last 4 years) _____

1. Often
2. Sometimes
3. Rarely
4. None

iv. Reason for no hunger experience. _____

1=Always enough harvest 2= Good storage for food security 3= enough money to supplement 4= Proper food management

v. Health condition of the family _____

1=Good 2= Fair 3= Poor

vi. Has your food availability changed over the last two years? _____

0= No 1= Yes

If yes, by how much? _____

vii. What types of livestock do you rear for your own consumption?

No	Name	Number	Estimated value
1			
2			
3			
4			
5			
6			

viii. What crops do you grow on your farm?

No	**Crops**
1	
2	
3	
4	
5	

3.0 Income

3.1 Major source of income:

i. crop production; [ ]
ii. livestock production [ ]
iii. fish farming [ ]
iv. trading [ ]
v. others [ ], specify: _____

3.2 Average income per year:

i. Below K200 [ ]
ii. K200 - K500 [ ]
iii. K500 – K1500 [ ]
iv. Above K1500 [ ]

3.3 Did you grow any crops for sale? Tick

Yes	
No	

3.4 Has your annual income from crops improved in the last two years? Tick

Yes	
No	

3.5 Fill the table below on income earned by HH members in the past 4 years. This encompasses all activities involving formal/ informal employment salaries, business and farm income.

Mem-ber code	List members who earn some income	List activities used to earn income in last 4yrs	How much income earned 12 months ago (0=none)	When was activity started?
codes	Names	IN 01	IN 02	IN 03
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

4.0 Livelihood Improvements.

i. Physical assets

Type of asset		Owner 0=No, Yes=1	How many	Value of asset
asset	Name/description			
1	Tractor			
2	Tractor trailer			
3	Plough			
4	Vehicle			
5	Oxen			
6	Ox cart			
7	Hand hoes			
8	Bicycle			
9	Motor bike			
10	Pigs			
11	Goats			
12	Sheep			
13	Ducks			
14	Chicken			
15	Solar panel			
16	Treadle pump			
17	Mobile phone			
			Total value=	

ii. **Infrastructure development.**

Name		Roofing; thatched =0, iron sheets =1	Made of; local material=0 Burnt bricks & cement=1
1	House		
2	Poultry pens		
3	Piggery pens		
5	Granaries		
6	Others		

iii. Did the project leave any infrastructure? (Participants ,iii-viii) _____
No=0 Yes=1

iv. Do you access the infrastructure developed? _____
Yes [ ] No [ ]

v. What kind of seed money income generating activities did the project bring?
   a. _____
   b. _____
   c. _____
   d. _____

vi. Have they been beneficial? ____
No=0 Yes=1

vii. If No, give reasons to your answer in(vi)? _____
_____
_____

viii. If yes, how? _____
_____
_____

ix. Do you have any income generating activities (off farm)? ____
No=0 Yes=1
   a. If yes, how much do you generate from there per year? _____

4.0 Problems faced by the respondents.

5.1 Have you been facing any problems that have affected your Agricultural production in your area/ Tick

i. No problem [ ]
ii. There was some problems [ ]
iii. If yes, list the problems.

_____
_____
_____
_____

5.2 What is your rating of the extension services? _____

i. Poor =1
ii. Fair =2
iii. Good =3
iv. Excellent=4

End of the questionnaire, thank you for your cooperation.

Stay blessed!!!!!