

**ANALYSIS OF POVERTY ALLEVIATION INITIATIVES AMONG SMALL
SCALE FARMING COMMUNITIES IN RURAL NAIVASHA, KENYA**

BY

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DECLARATION

This Thesis is my Original Work and has not been presented for a Degree in any other University.

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DEDICATION

To the glory and honor of God for His sufficient grace. To my parents Charles and Rebecca, siblings Patricia and Grace for their continuous support.

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ACRONYMS/ ABBREVIATIONS

CBS	-	Central Bureau of Statistics
PAI	-	Poverty Alleviation Initiatives
RoK	-	Republic of Kenya
MDGs	-	Millennium Development Goals
GDP	-	Gross Domestic Product
KShs	-	Kenyan Shillings
IMF	-	International Monetary Fund
NGO	-	Non Governmental Organization

ABSTRACT

Small-scale farmers are the centre of concern about globalization because they are the largest employment and small business group among the world's poor. More than 80% of Kenyans live in the rural areas and earn their livelihoods in agricultural-based activities. More than 50% of Kenyans live below the poverty level and struggle to meet their basic needs. Therefore the purpose of this study was to analyze of poverty alleviation initiatives among small-scale farmers in rural Naivasha, Kenya. The objectives of the study were: to identify opportunities and challenges facing small-scale farmers in meeting their basic needs as regards water for irrigation, land and training on modern agricultural practices; to determine household resources through asset mapping and subsequent zonal differences by wealth accumulation and to analyze poverty alleviation initiatives for and by the small scale farmers. The study methodology included Ex-post facto research design through use of participatory rural appraisal tools such as the direct contact questionnaire, focus group discussions and key informant interviews. A sample of 136 respondents were interviewed that comprised of 100 small scale farmers, 6 development agencies and 30 people for focus group discussions. Quantitative data was analyzed with the use of Statistical Package for Social Sciences (SPSS) where descriptive statistics and inferential statistics were computed in order to understand the patterns and nature of relationships. Qualitative data was analyzed thematically, where labels were assigned to various categories and themes. The survey found that the efforts by the small scale farmers to alleviate poverty had been hampered by lack of support in skills acquisition and farm inputs, natural disasters such as drought and dependence on rain fed agriculture. This is in addition to constrained access to markets, lack of technology transfer to farmers coupled with low levels of technology adoption. The role of development agencies was found to be of paramount importance as they provided training and credit, farm inputs, education and health services at subsidized prices and enabled farmers to have better access to markets. However there was lack of synergy and coordination of operations among these development agencies leading to an overlap, competition and conflict. There were significant differences between farmers who received training on modern agricultural practices and those who did not ($p < .05$). There were also significant differences between farmers who had access to water for irrigation and those who did not have access ($p < .05$). Findings also showed that there were significant differences among agricultural zones and annual wealth accumulation ($p < .05$). It was concluded that poverty alleviation initiatives that had made the most contribution to the small scale farmers were: training on modern agricultural practices, improved access to water for irrigation, self help groups and financial assistance. It was recommended that various development agencies should work in a coordinated manner to benefit the local communities; and improved access to water for irrigation and irrigation technology would greatly improve the standard of living of the small scale farmers.

CHAPTER ONE: INTRODUCTION

1.0 Background to the study

The world today faces crisis with poverty being one of the leading and greatest threat to security and sustainable development. The entire international community now has unprecedented focus on poverty alleviation- embodied in its commitment to achieving the Millennium Development Goals (MDGs). The heads of state and governments of the world promised to “spare no effort to free our fellow men, women and children from the abject and dehumanizing conditions of extreme poverty, to which a billion of them are currently being subjected”. They therefore resolved to “halve by the year 2015, the proportion of world’s people whose income is less than a dollar a day”, (United Nations Development Programme, 2003a).

Extreme poverty is overwhelmingly rural. The majorities of the world’s poor live in rural areas and depend on agriculture and agriculture related small industries and services for a living. These include small scale farmers, landless wage laborers, pastoralists and artisanal fishers. Of these are the world’s 450 million small scale farming households who cultivate less than two hectares (Food & Agricultural Organization, 2004).

World Development Report asserts that agriculture remains the main source of livelihoods for an estimated 86 per cent of rural people (2.5 billion people) and for many countries the main opportunity for sustained, employment-based growth (World Bank, 2007). The agricultural sector-broadly defined to include crop, livestock, forestry, fisheries, and wildlife- is the backbone of the economies of most Sub-

Saharan Africa countries and will continue to be so in the foreseeable future. The key role of agriculture in Africa's economy life is apparent- agriculture accounts for 35 per cent of the continent's Gross Domestic Product, 40 per cent of its export, 70 per cent of its employment, and more than 70 per cent of the population depend for their livelihoods on agriculture and agri-business (Kijne, 2000).

Agriculture being the major employer, largest sector of the economy and the top export earner in most developing countries, the link between spending on agricultural development, and economic growth and poverty has become increasingly clear. In recent years, a strong correlation has emerged between greater levels of spending on agriculture and progress towards achieving the Millennium Development Goals. However, there has been failure of Northern (developed countries) and Southern (developing) countries and global multilateral institutions in the provision of appropriate investment in agriculture. Though 75% of Africa's poor live in rural areas and are dependent on the agricultural sector, bilateral and multilateral aid to agriculture accounts for less than four per cent of total development assistance. This decline shifted from 5.2% in 2000 to 3.4% in 2006 (Barr, 2004).

Southern (African) governments spend only 4-5% of their budget on agriculture. The African Union (AU) in July 2003 in Maputo, African Heads of States and Government endorsed the "Maputo Declaration on Agriculture and Food Security in Africa" of allocating 10% of budgetary finances to agriculture. This is based on the rationale that when governments invest in agriculture, small scale farmers can increase productivity and gain better access to markets. As productivity rises, demand grows for seeds,

irrigation, fertilizer, tools, processing and transportation, leading to increased employment by the rural non-farm sector. As the farming and rural non-farm sectors become stronger, they help sustain the whole economy.

According to data for 24 countries, by 2005 only six countries had achieved the target of allocating at least 10 per cent of their national budgets to agriculture. These countries were: Niger (20 per cent), Ethiopia (16.8 per cent), Burkina Faso (13.7 per cent), Chad (12 per cent), Mali (11 per cent) and Malawi (11 per cent). The average for the 24 countries was 6.6 per cent; the average (for 31 countries) in 2003 was 5.6 per cent (World Bank, 2007).

Lack of access to finance is a major obstacle that prevents farmers from investing in basic inputs, such as good seeds, fertilizers and small-scale irrigation needed to raise farm productivity and generate profit. As a result, their yields have not increased, leading to pervasive hunger and poverty across Africa (World Bank & International Monetary Fund, 1999).

The Kenyan Economy is largely agricultural-based. The agricultural sector accounts for 25% of Gross Domestic Product (GDP) and 57% of national income both directly and indirectly. However, the predominant reliance on climatic conditions makes it vulnerable to the effects of climate changes. Of agricultural output, 75% is from small scale rain fed farming or pastoral production, and has been highly susceptible to both annual and season rainfall variability (Republic of Kenya, 2001). Over the years, realization of agriculture's full potential in Kenya has been hampered by decreasing

farm sizes with an increasing number of farm holdings as a result of land demarcations.

Other factors that have hindered realization of agricultural full potential include: constrained access to markets, lack of sensitization and technology transfers to farmers, lack of association forums between small scale farmers and pesticide multinationals and low levels of technology adoption. As a result Kenya remains among the relatively poor countries in Africa, with more than 50% of people living below the poverty line and between 1.5 and 3.5 million people dependent on food assistance at any given time (Republic of Kenya, 2007b). Much of Kenya is arid, with only 20% of the country's 582,650 square kilometers being arable land. It is therefore vital for small scale farmers to be empowered to make the best of the little land they have (World Bank, 2007).

1.1 Statement of the problem

Naivasha Municipality lies within the great Naivasha District. In the district is Lake Naivasha with its fresh water, the main source where most agricultural activities revolve. The topography of the District has greatly influenced the economic activities in the area. In the areas with volcanic soils, farming and dairying are common. In the drier parts, livestock keeping is practiced. Agriculture is the main economic activity in the district and in particular rural Naivasha. Agriculture activities include farming, livestock keeping and floriculture along Lake Naivasha. An estimated 70% of the population is engaged in agriculture thus making it the major source of employment.

In addition, the proportion of household incomes emanating from agricultural activities is about 80% (Naivasha District Development Plan, 2008). However these agricultural activities are dependent on rainfall, which is generally low and inadequate, often resulting in drought. This is more pronounced in the lower agricultural zones like Malewa, Karati and Gilgil. These lower regions have therefore continued to be vulnerable, food insecure and to be characterized by endemic poverty. In 2008, the overall (absolute) poverty in the district was estimated to be 39% while estimated food poverty was 36% (Naivasha District Development Plan, 2008). The Naivasha District Development Plan (2008) asserts that poverty and unemployment were identified as twin problem afflicting a large proportion of the people. Poverty has continued to persist in spite of government efforts towards poverty alleviation. Poverty in the District is said to be caused by unemployment, insecurity, landlessness, lack of basic services such as health, education, social services and inadequate credit facilities.

Of importance to note about Naivasha Municipality where the study was undertaken are the differences in agro-climatic conditions, infrastructural access to markets and public facilities and socio-economic conditions. Even though these have been identified as the major contributors in differences in poverty levels, there is little empirical research done to ascertain the exact relationship between poverty levels and these factors. The study therefore was undertaken to identify the factors that accentuate the poverty among small-scale farmers in rural Naivasha, gaps in the poverty alleviation initiatives and offer recommendations.

1.2 Purpose of the study

This study aimed to analyze poverty alleviation initiatives among small-scale farming communities in rural Naivasha, Kenya.

1.3 Objectives

The overall objective of the study was:

To do an analysis of poverty alleviation initiatives among small-scale farming communities in rural Naivasha, Kenya.

The specific objectives of the study included:

1. To identify opportunities and challenges facing small-scale farmers in meeting their basic needs as regards water for irrigation, land and training on modern agricultural practices.
2. To determine household resources through asset mapping and subsequent zonal differences by wealth accumulation.
3. To analyze poverty alleviation initiatives for and by the small scale farmers.

1.4 Research Hypotheses

This study was guided by the following hypotheses.

H₀₁: There was no significant difference between farmers who received training on modern agricultural practices and those who did not.

H₀₂: There was no significant difference between farmers who had water for irrigation and those who did not have access.

H₀₃: There was no significant difference among agricultural zones and annual wealth accumulation.

1.5 Significance of the study

The research will provide the policy makers with information on the various factors accentuating poverty among small scale farmers, gaps in the poverty alleviation initiatives and offer recommendations on implementation of sustainable projects in the area of study. With the relevant policy recommendations if acted upon and the current policies amended will help change the lives of the small-scale farmers in Rural Naivasha in the area of poverty alleviation. The research will add new literature to the existing body of knowledge in the area of poverty alleviation among small scale farmers.

1.6 Delimitations of the study

The study was limited to a sample of a population within rural Naivasha Municipality. Therefore implications and generalizations of the study findings to other areas in Kenya should be done with caution since the situations are different in other Kenyan districts as a result of the differing socio-economic conditions.

1.7 Limitations of the Study

1. The kind of data in this study was cross-sectional in that it was collected at one point in time.
2. Since poverty can be explained from and through various perspectives and since poverty can be as a result of many factors, this study was based on selected variables and therefore did not exhaust all dimensions of the multifaceted aspect of poverty. This therefore means that the study was constrained by time and financial

costs. The researcher further realizes what the limitations this study would have in terms of poverty analysis in the area.

1.8 Theoretical Background

The theoretical background on which this study was based included the Family Resource Management Theory by Deacon and Firebaugh (1988) and the Theory of poverty caused by Cumulative and Cyclical Interdependencies by Bradshaw (2006).

The Family Resource Management Theory (Fig 1.1) has four concepts; inputs, throughputs, outputs and feedback. In this theory, inputs include the family's resources, goals and demands that undergo transformation in the throughput to produce the outputs or outcomes. Resources include human and non- human resource and act as a means of achieving ones demands. Goals are anticipated outcome and greatly influence the resources used and type of action. Throughput is the transformation of inputs by a system to output (Deacon and Firebaugh, 1988).

Through-put has planning, decision making, implementing and controlling. Planning involves setting of standards and sequencing of activities to attain demands. Implementing is the actualization of the plan. Communication is a way of providing feedback by using messages to produce meaning to others. Outputs are the matter, energy, information or processed resources to produce demand responses and resource changes. Feedback is the positive or negative responses to action that reenters a system as input to affect succeeding output (Deacon and Firebaugh, 1988).

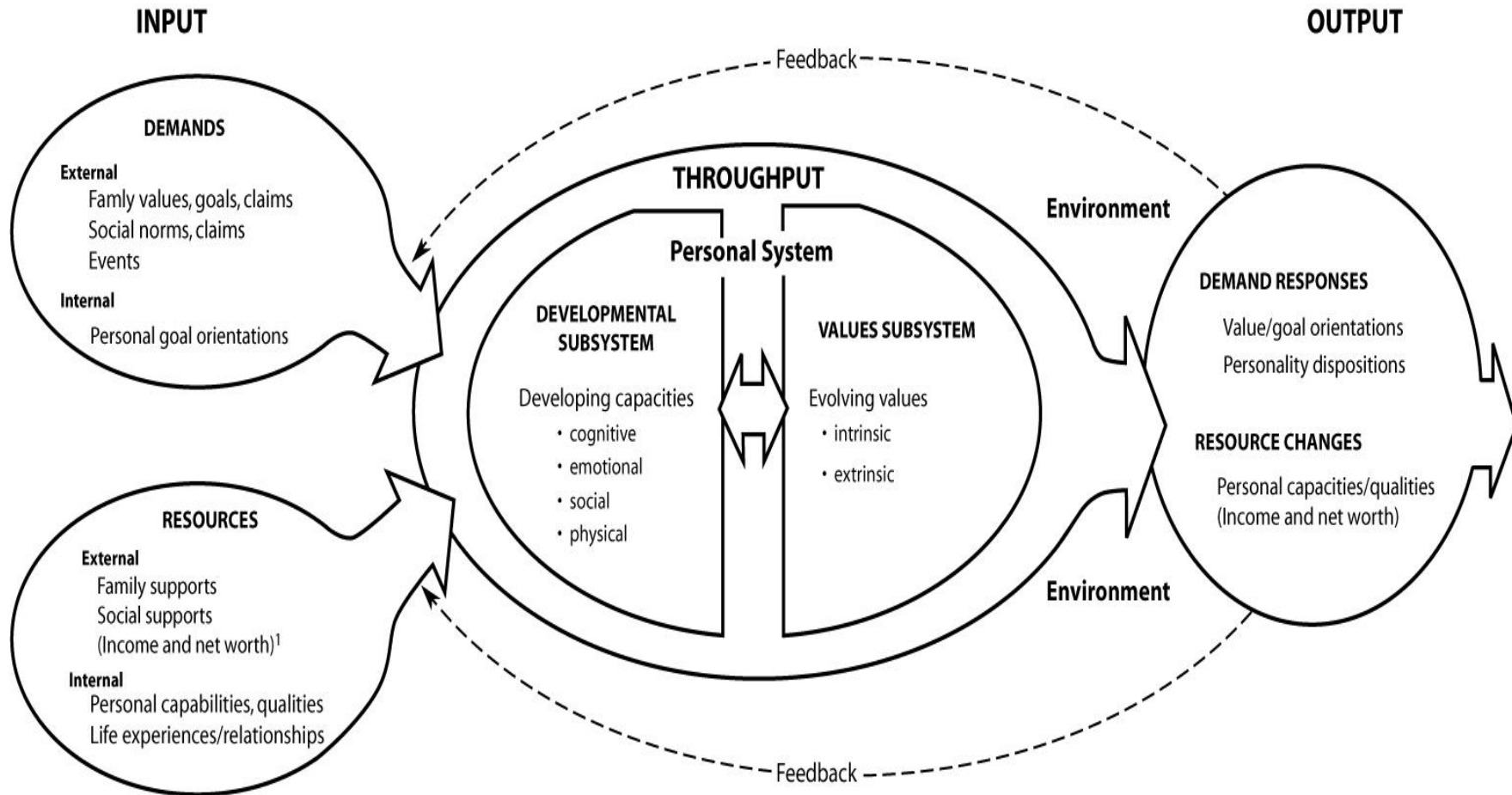


Fig. 1.1: Family Resource Management theoretical model by Deacon and Firebaugh (1988)

The study also borrowed from the Theory of Poverty caused by Cyclical and Cumulative Dependencies. This theory by Bradshaw (2006), is from a contemporary school of thought that views poverty from the perspective that individuals and their community as being caught in a spiral of opportunities and constraints, and that once problems dominate they close other opportunities and create a cumulative set of problems that make any effective response nearly impossible (Bradshaw, 2000). From the cyclical perspective, the individual situation and community resources are mutually dependent.

Myrdal (1957) attests that the interdependence of factors creating poverty actually accelerates once a cycle of decline is started. In an attempt to define poverty, Sher (1977) looks at the cycle by which education and employment at the community and individual level interact to create a spiral of disinvestment and decline, while in advancing communities the same factors contribute to growth and well being. Lack of employment opportunities leads to increased migration of educated people to the suburbs, low tax revenue which has in effect brings under development of the rural areas as the able bodied persons of the community migrate elsewhere. This again translates to decline in infrastructure and decline of service delivery. Consequently underdevelopment of such areas leads back to greater unemployment.

At the individual level, the cycle manifests itself in the following. Unemployment reduces levels of consumption and spending in the poor households due to their meager savings. This means that the individuals cannot invest in their future through

education or training, hence lack the technical know-how to start income generating activities such as businesses. Such a dire situation results to disinvestment of the locality which consequently contributes to more inadequate community opportunities.

At the second level, the poor individual lacks the resources to invest in their children's essential requirements such as education and proper medical care. Such children lack skill acquisition and status which greatly influence the future labor force and productivity of the community in addition to being in poor health. At the third level of the cycle of poverty, individuals are characterized by psychological problems such as apathy, deteriorating self confidence, depression and lack of passion for life due to lack of jobs and income. These individuals form belief cultures that support sub cultures of poverty. Thus what one is socialized in sub cultures (attitudes, tendency, and behaviors) forms the basis for one's response life.

In conclusion, the cyclical theory shows how multiple problems cumulate, and it allows speculation, that if one of the linkages in the spiral was broken, the cycle would not continue. The problem is that the linkages are hard to break because each is reinforced by other parts of the spiraling system. The complexity of the cycle of poverty means that solutions need to be equally complex. A full step from poverty requires six interdependent elements of self-fulfillment that can be identified and tracked. These include: income and economic assets, education and skills, housing and surroundings, access to health care and other social services, close personal ties, as well as networks to others, personal resourcefulness and leadership abilities (Miller.

Mastuera, Chao, Sadowski, 2004).

Miller argues that there is no way to help individuals from poverty without first increasing social capital among communities and subcultures of the poor. Asset Mapping (Kretzman and McKnight, 1993) is a way to identify whatever strengths the community has and to use them to solve problems in the most effective way rather than to spend time identifying problems for which there may not be adequate answers.

1.9 Conceptual Framework

Emanating from these two theories, the following model is conceptualized for the study as shown in Figure 1.2. The input components are the socio-economic factors which included the small scale farmers' age, education level, income, household type, and assets (human, physical and financial capital). The throughput processes are the decision making, training, and access to credit, capital, markets and agricultural extension services. In the throughput, the inputs undergo transformation to become outputs or expected outcomes. The output component is the standard of living among the small scale farmers. When the farmers' inputs undergo processing by the throughput, there are expected positive outcomes in their living standards. This is evidenced by improved farming methods and increased wealth accumulation.

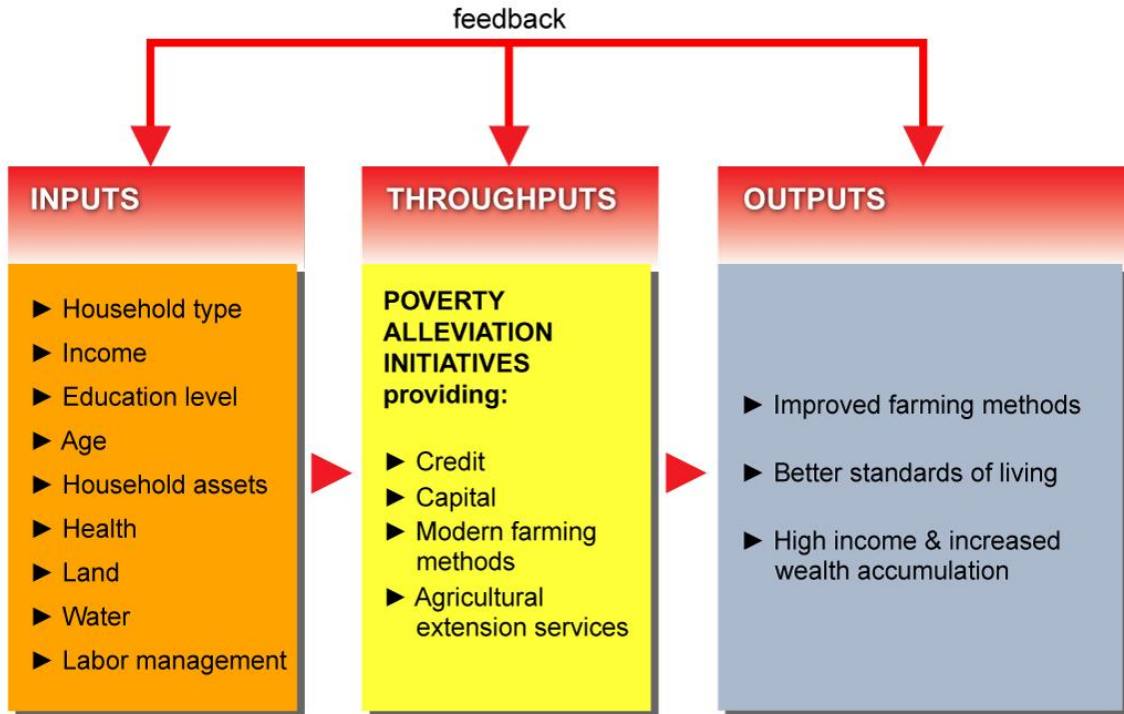


Figure 1.2: Hypothesized relationships between households' inputs, throughputs and outputs. Adapted from Deacon and Firebaugh (1988).

1.10 Operational definition of terms

1. Poverty:

Poverty is the inadequacy of incomes and deprivation of basic needs and rights and lack of access to productive assets as well as social infrastructure and markets in the current Poverty Eradication Strategy Paper (Republic of Kenya, 2001).

2. Small scale farmer:

Anybody engaged in farming activities on less than 10 acres of land with limited machinery. Source, (Preliminary study of Naivasha District, 2010).

3. Poverty Alleviation Initiative:

Is any programme or activity whose focus is to eradicate extreme poverty and hunger (MDG one) either directly or indirectly.

4. Change/ Development Agency

This is an enabler or a facilitator working with beneficiary (here referred to as small scale farmer) with the purpose of bringing desired positive change.

5. Household wealth accumulation:

This is the total household wealth accrued through engagement in farming or any farming related activities. Any gifts, inheritance, donations are not included as part of wealth accumulation.

6. Ex-post Facto:

A system of empirical inquiry in which the scientist does not have direct control of the independent variables because they are inherently not manipulable (Kerlinger, 1973)

7. Asset Mapping:

A way to identify whatever strengths the community has and to use them to solve problems in the most effective way rather than to spend time identifying problems in the most effective way rather than to spend time identifying problems for which there may not be adequate (Kretzman and McKnight, 1993)

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

In this chapter, literature has been reviewed under the following topics: Situational analysis of poverty, Causes of poverty, Indicators of poverty, Poverty Alleviation Initiatives, Challenges facing the Poverty Alleviation Initiatives and Summary of Literature.

2.1 Situational analysis of poverty

It was after the World Summit on Social development in Copenhagen in 1995, that 117 countries adopted a declaration and programme of action to eradicate absolute and overall poverty. Absolute poverty was defined as “a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to services.” Overall poverty was defined to mean a “lack of income and productive resources to ensure sustainable livelihoods; hunger and malnutrition; ill health; limited or lack of access to education and other basic service; increased morbidity and mortality from illness; homelessness and inadequate housing; unsafe environments and social discrimination and exclusion. It is also caused by lack of participation in decision making and in civil, social and cultural life,” (United Nations, 2005).

Poverty is the inadequacy of incomes and deprivation of basic needs and rights and lack of access to productive assets as well as social infrastructure and markets in the current Poverty Eradication Strategy Paper (Republic of Kenya, 2001). Poverty is a

problem for both developing and developed countries (Jiaqi *et al.*, 2004). While the last century saw great progress in reducing poverty and improving well-being, poverty remains a global problem of huge proportions. Of the world's 6 billion people, 2.8 billion live on less than US\$2 a day and 1.2 billion on less than US \$1 a day. Approximately 1.2 billion people, or one-fifth of the world's population, still live in extreme poverty on less than US \$1 a day and 2.8 billion people, or almost half of the world's population, on less than US \$2 a day (UNDP, 2005). Three quarter of those in extreme poverty live in rural areas (IFAD, 2001) and the majority are women.

Poverty is a rural phenomenon in most of the developing countries including Kenya. As reported by Khan (2001) and Etim (2007), rural poverty accounts for nearly 63% of poverty worldwide, reaching 90% in some countries like Bangladesh and between 65 and 90% in sub-Saharan Africa. The rural poor make up more than 75% of the poor in many sub-Saharan African and Asian countries (Pinstrup & Pandya, 2001). Rural poverty levels remain high in Africa and the East Africa region. The World Bank (2008) showed that the number of rural poor in Africa increased over the period between 1992 and 2008 to reach over 210 million people. Most of Africa's poor reside in rural areas 70% of its poor and this is expected to dominate urban poverty for several more decades.

The rural populations depend on small scale agriculture for food and income. Smallholder agriculture remains the major engine of rural growth and livelihood improvement for any pathway that can lift large numbers of the rural poor out of

poverty (Greene, 2003). Meeting the challenge of improving rural incomes in Africa will require some form of transformation out of the semi-subsistence, low-input, low productivity farming systems that currently characterize much of rural Africa (Barbier, 2009).

Although predicted poverty reduction scenarios vary greatly depending upon the rate and nature of poverty related policies, actual evidence suggests that the depth and severity of poverty is still at its worst in sub-Saharan Africa and South Asia (Hanmer and Naschold, 2009; Barbier, 2009). Within these regions, poverty is largely a rural phenomenon with an average of between 62 and 75% of the population living on less than a dollar a day (Pinstrup *et al.*, 2001). Rural poverty also tends to be deeper than urban poverty in these regions (Bird *et al.*, 2002).

In Kenya the incidence of poverty is higher in rural areas at 49.1 per cent compared with 33.7 per cent in urban areas. For example, a national poverty survey carried out in 2005 indicates that the high tropic areas have poverty levels estimated at 46% while the low tropics' have poverty levels that are as high as 60% (Gamba *et al.*, 2009; RoK, 2007). The average national poverty incidence stands at 56%. National surveys set the rural poverty line at KShs 1,239 and KShs 1,560 per month in 1997 and 2005, respectively (RoK, 2007). The corresponding poverty lines for urban areas were KShs 2,648 and KShs 2,930. At the current exchange rate, the national poverty line for the rural areas is lower than the international poverty line of US\$ 1 per day. Besides, evidence indicates that this situation has not improved in the last 15 years in a majority

of Sub-Saharan countries; Kenya included (World Bank, 2009; Barbier, 2009). The main problem lies in the fact that despite the high poverty rates in Kenya little is documented on policy related determinants of rural poverty, making it very difficult to effectively set and implement sustainable anti-poverty policy programmes.

2.2 Causes of poverty among small scale farmers

Causes of poverty among small scale farmers are complex and multidimensional. They involve culture, climate, gender, markets, and public policy. A lot has changed in the last years, new shocks and stresses are evident from climate change to HIV/AIDS- with major implications on farming and livelihoods (Thompson, Millestone, Ely, Marshall, Shah and Stagl, 2007). Agriculture is the major economic activity for the countries of the Sub Saharan Africa, engaging between 75 and 85 per cent of the people of those countries. Consequently it is strongly underscored that agriculture is the backbone of these countries' economic development and their peoples' well being in the foreseeable future. Currently, agriculture remains largely at the subsistence stage characterized by low market orientation.

Production and management technologies are based on mostly simple, poor and inefficient traditional techniques, and the risk and uncertainty component in production and marketing is large. Capital investment in farming among small scale farmers is low and seldom sustained. In the recent past in Kenya, capital flight from agriculture is real and worsening. Human capital, financial capital and technological capital tend to divert from agriculture to potentially more profitable and lucrative

sectors of the economy. Inadequate and inefficient rural infrastructure, coupled with inappropriate pricing mechanisms has contributed to the existence of economy wide adverse domestic terms of trade for agriculture (Central Bureau of Statistics, 2003).

Poverty is an outcome of economic, social and political processes that interact and reinforce each other to exacerbate the state of deprivation. Rising poverty is driven by Kenya's dismal economic performance. Kenya's population has been on the increase over the past thirty years putting pressure on the natural resources, increasing income gap, rising poverty levels that erode gains in education, health, food security, employment and incomes. Large inequalities have accentuated poverty, and women suffer disproportionately as cultural and traditional practices often restrain equal access to economic resources and opportunities (Shaohua and Ravallion, 2008).

Prevalence of poverty has also resulted from too little or poor quality inputs in agriculture, especially lack of detailed scientific knowledge, locality by locality of climates, soils, biotic factors, crop plant materials and animals; management skills; agrochemicals; capital; credit and weak supportive infrastructure. Farmers have poor access to well-functioning communication and transport facilities to facilitate inflow of inputs and outflow of products, or post-harvest processing and handling systems (for value addition). Companies continue to focus on more profitable crops/varieties rather than the wide range of crop species which constitute the backbone of resource poor farmers' food security. The result is low output (Tripp, 2003). New avenues are needed, therefore, to provide seeds of improved varieties that respond to the choices

and demands for poorer farmers. Climate change as evidenced by disasters such as droughts, floods, typhoons have become frequent and unpredictable. The semi arid areas of Sub Saharan Africa are characterized by low rainfall with one or two short rains.

According to Rockstrom (2000), rainfall in most of Sub Saharan Africa is highly erratic, and normally falls as intensive storms, with very high intensity. Consequently, are the annual droughts and intra-seasonal dry spells. On this note, there is a growing understanding that the major cropping system that mainly includes the rain fed agriculture in Sub Saharan Africa is not sustainable (Benites, Chuma, Fowler, Kienzle, Molapong, Mathu, Nyangumo, Steiner, Veenhuizen, 1998). Nevertheless, the majority of the population in Sub Saharan Africa depend on smallholder, subsistence agriculture for their food security (e.g., Botswana, 76%; Kenya, 85%; Malawi, 90%; and Zimbabwe, 70-80% of the population (Rockstrom, 1999).

Policy bias that generally work against the rural poor are exemplified by: bias in favor of large land owners and commercial producers with respect to rights of land ownership and tenancy, publicly provided extension services and access to (subsidized) credit; favoring export over food crops; implicit taxation of agricultural products; urban bias in public investment for infrastructure and provision of safety nets insecure land tenure; weak influence on global markets and trade and farmers disempowerment. Weak coordination of agriculture with other related sectors has had a negative input on the levels of development, (Pretty, 2005).

2.3 Indicators of poverty

An indicator is an important tool for monitoring trends and changes over time. Indicators are essential for designing especially poverty alleviation programmes and outcomes. They provide a means of providing feedback for comparing progress across different countries and are needed for evaluating results of initiatives. This study has adopted the World Bank indicators of poverty. According to World Bank Development Indicators (2008), social indicators tabulated against poverty include education (literacy, expenditure on education), health (morbidity, health seeking behavior, prenatal and ante-natal care, child immunization), agriculture (land holding, expenditure on agricultural inputs), employment, social amenities (cooking and lighting fuel, shelter and ownership of assets), and water and sanitation (access to portable water and safe sanitation).

2.4 Poverty Alleviation Initiatives (PAIs)

According to the World Bank, (2001) major reductions in poverty are possible but achieving them will require a more comprehensive approach that directly addresses the needs of the poor people in three important areas: opportunity, empowerment and security. Sustainable Agriculture cannot succeed without the full participation and collective action of rural people and land managers. This is for two reasons. First are the external costs of resource degradation that are transferred from one farmer to another. Secondly the attempts of one farmer alone to conserve scarce resources may be threatened if they are situated in resource degrading farms. Studies have shown that farmers and farming households that have worked together on resource management,

labor sharing, marketing, nutrient management have been able to maintain landscape value that would be too costly or even impossible if done alone. Local groups and indigenous institutions have therefore long been important in rural and agricultural development.

These may be formal or informal groups such as traditional leadership structures, water management committees, water users groups, neighborhood groups, youth and women groups and tree growing associations. These initiatives provide basis for collective action, for building consensus, for undertaking coordination of responsibility and for collecting, analyzing and evaluating information, (Thompson et al, 2007). Poverty alleviation in Kenya has become a major challenge since independence where in addition to elimination of ignorance and disease, poverty alleviation was identified as a major policy objective (Republic of Kenya, 1965). Over the years the Kenyan Government has through its decentralized antipoverty programs targeted the distribution of assets, food, funds and services to individuals, households and communities.

Through these funds the government aims at improving poverty targeting and project implementation by using local information and encouraging community participation especially in project identification, implementation, monitoring and evaluation. Recently there has been an increase in resources devoted for Constituency and Community based development programs that include the Constituency Development Fund (CDF), Community Development Trust Fund (CDTF), Local Authority Transfer Fund (LATF), Constituency Education Bursary Fund, and Roads Fund. The

government in recent years has published a number of policy and strategy papers geared towards achieving broad based sustainable improvement welfare of all Kenyans (Robb, 2002). These include:

1. Structural Adjustment Policies

These were enforced in the years of 1984-1988 by the World Bank and International Monetary Fund. The structural adjustment policies were implemented with an aim of enhancing economic efficiency by liberalization of the economy by reducing or removing import controls dismantling price controls and privatizing parastatals enterprises and contain growth in government expenditure. The shortfall was the lack of social dimension to development.

2. Poverty Reduction Strategy Plan

This had the twin aim objective of reducing poverty and to increase economic growth in the country. The poverty reduction strategy plan was a short term strategy to implement the long term vision of National Poverty Eradication Plan and the United Nations Millennium Development Goals. Education, health and labour have a bearing on poverty which the poverty strategy reduction plan aim was to improve on.

3. Decentralised Funds

These funds include the Consistency Development Plan (CDF), Local Authority Transfer Fund (LATF), Secondary Education Bursary Fund (SEBF), Road Maintenance Levy Fund (RMLF), Free Primary Education (FPE), and the Youth and Women Development Funds. The funds target the vulnerable members of society such as orphans, women, girls and rural folk.

4. Vision 2030

Based on the economic, social and political pillars, the vision aims to transform Kenya into a newly industrialised middle income country providing high quality of life for all its citizens, (Republic of Kenya, 2007b).

In all the above strategies, the importance of investing in human capital, including the poor and providing equitable social development of all Kenyans is emphasized. To complement the government's efforts to alleviate poverty, there are bilateral donors, foundations, research institutions and non-governmental organizations. These fund projects and programmes in sectors that have a bearing on poverty alleviation in areas of education, environment, gender, land, health and HIV/AIDS, private sector, agriculture and rural development, water and sanitation, social protection, roads and transport and public sector reform.

In addition, the communities by their own efforts have formed self help groups to enable them pool their local resources to alleviate poverty. These groups have become focal points for poverty alleviation initiatives at the community level. It has been through these groups that communities have improved their housing units, household items, building of dispensaries, schools and cattle dips.

In relation to small scale farmers, strategies and initiatives should strive towards addressing the impediments to agricultural performance, with particular attention to enhanced productivity, intensification and diversification of activities with a vision to

stimulate agriculture's growth and development. Initiatives should focus on strengthening research and extension services, farmers' access to credit and quality farm inputs, promotion of private sector involvement in agricultural development, improved market access through better rural roads, promoting increased processing of agricultural produces for value adding (World Bank and International Monetary Fund, 1999).

2.5 Challenges facing the Poverty Alleviation Initiatives

Many years of development interventions have not led to a significant decline in natural resources degradation or a reduction in poverty. The lack of genuine participation and top down development interventions are major contributions to these poor results. Farmers' full participation in the governance, planning, implementation, monitoring and evaluation is still very poor. More recently, farmers have become more organized although their capacity to act collectively is often limited. The management of farmer groups, poor membership, mobilization and retention remains a major challenge. Small scale farmers and farmer groups do not have the requisite capacity to effectively engage with and participate in international trade negotiations and defend their interests in a global competitive market (World Bank and International Monetary Fund, 1999).

Also lack of coherent strategic plan and too much focus on programmatic approach that mainly responds to funding opportunities remains a challenge in the developing countries. Alleviation of poverty does not end with meeting the individual's material

needs but by combating the causes of poverty (Bhorat, Murray, Leibbrandt & Maziya, 2001). In order to achieve sustained economic growth and a reduction in poverty, it is important to recognize the importance of broad economic stability, competitive markets and public investment. In addition, because the rural poor link to the economy vary considerably; public policy should focus on issues such as their access to land, credit, education, health care and support services. Community participation has been viewed by one school of thought as one way of increasing efficiency the central notion being that if people are involved, they are more likely to support the new development and service.

The other school of thought views community participation as a right, the main aim being to initiate mobilization as a collective action, empowerment and institution building (Rob, 2002). In conventional rural development, participation has often centered on local people to sell their labor in return for food, cash or materials. Yet these material incentives distort perceptions, create dependencies and give misleading impression that local people are supportive of externally driven initiatives.

Development programmes continue to justify subsidies and incentives, on the grounds that they are faster, they can win over more people, and the people cannot help themselves. As little effort is made to build local skills, interests, and capacity, local people have no stake in maintaining structures or practices once the flow of incentives stops, thus stalling of projects once the expatriates withdraw (Rahnema, 1992). Technologies and practices are assumed to be universal, and exist independently of

social context. When they are not widely favored or adopted, then the external response has been to blame the farmers rather than the technology leading to modern agricultural development being characterized by coercion and enforcement.

The problem for many farming households is that they cannot adopt modern packages without significantly changing their own practices. They either adopt the whole package or reject it entirely. Although it is gradually being recognized that the complete package is not appropriate for the complexities of most rural life, packages are still being used in programmes (Pretty, 2005). According to the United Nations Development Programme (2003a), the problem with national and international institutions is that they have tended to substitute for local action, so smothering any existing initiatives or institutions. As local groups and initiatives have been ignored, so many have disappeared entirely. This has led to dependency syndrome and to decreased capacity in local people to cope.

Many governments without realizing it have routinely suffocated various initiatives. Local management has been substituted for by the state, leading to increased dependence of local people on formal state institutions. The reason for this sorry state of affairs is that the people themselves have no place in rural development, as every available space is occupied by bureaucracy. The community, which was once central to the rural development strategy, is now peripheral to it. For many reasons, agricultural institutions, whether universities, research organizations, or extension services, find it difficult to learn from farmers and rural people. This is because they

are characterized by restrictive bureaucracy and centralized hierarchical authority. The widespread reliance on surveys, supplemented by short rural visits gives a distorted picture of rural reality.

The tendency is for rural complexity to be simplified. Sumberg (2005) indicated that by bringing all stakeholders fully into the research process, focus will shift from 'research for its own sake' to 'research for development'. This will translate to a basic change of dynamic referred to as 'politics of inclusion' (Scoones, 2009). As a broad generalization, large projects and schemes launched by governments, which consume big slices of the development budgets, have not made a very significant contribution to agricultural development.

Many are outright failures, and the rest, with few expectations have enjoyed limited success. The frustration and waste of so many governments' efforts have usually been due to failure to appraise correctly in advance what responses particular projects and measures will elicit (Miller et. al, 2004). These responses must be assessed in their interrelated whole: environmental, social, economic and political- so that the incentives, possibilities and bottlenecks are defined. This is the major challenge to African governments and those outside agencies and individuals who would assist with the task of African agricultural development.

2.6 Summary of the reviewed literature

From the above literature review, the average national poverty incidence stands at 56% (Republic of Kenya, 2007). In 2008, Naivasha District had an overall (absolute)

poverty estimated to be 39 per cent while estimated food poverty was 36 per cent (Naivasha District Development Plan, 2008). The district's development plan asserts that poverty and unemployment were identified as twin problem afflicting a large proportion of the people. Very little research has focused on small scale farmers and the community based initiatives to alleviate poverty. This study therefore sought to analyze existing poverty alleviation initiatives among small scale farming communities in Naivasha.

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter presents the methods and procedures that were used for the study. It is organized under the following subheadings: preliminary study, research design, target population, sample and sampling procedures, research instrument, validity and reliability of research instrument, data collection procedures, data analysis procedures and ethical considerations.

3.1 Preliminary study

Preliminary information on the area of study was gathered through simple observation and holding of meetings. Simple observation was done by the researcher who traveled and walked through the area of study observing physical features of the area, farming and other human activities, general conditions of infrastructure (roads, markets and social amenities), housing conditions and climatic conditions.

Informal discussions were held with the small scale farmers and informal community leaders (village elders, women and youth leaders) who gave insight to the challenges facing the small scale farmers. Formal meetings were also held with representatives of the Ministry of Agriculture, Department of Social Services in the Municipal Council of Naivasha where lists of the registered development agencies and self help groups were obtained from their records (see Appendix 5, 6 and 7).

3.2 The Research Design

The design that was considered appropriate for the study was Ex-post Facto research design. The design is defined as a:-

System of empirical inquiry in which the scientist does not have direct control of the independent variables because they are inherently not manipulable. Inferences about relations among variables are made without direct intervention, from concomitant variations of independent and dependent variables (Kerlinger, 1973).

Kerlinger (1973) however says that *“despite its weakness, much ex post facto research must be done in psychology, sociology and education simply because many research problems in social sciences do not lend themselves to experimental inquiry.”*

3.3 Variables

Independent variables of the study were: household income and expenditure, health, water, housing, sanitation, food security and household assets, trainings on modern farming methods, and impact of poverty alleviation initiatives. The dependent variable in the study was the households' incomes.

3.4 Location of the Study

The choice of the rural Naivasha Municipality was based on the interest the researcher has had over the years on the plight of the small scale farmers as some remained very poor yet they appeared to work very hard in their farming activities. This observation is well supported by Naivasha District Development Plan (2008), where despite the enormous resources expended by the government and NGO's towards poverty

alleviation programmes, poverty in the district still persists. In 2008, the overall (absolute) poverty in the district was estimated to be 39% while estimated food poverty was 36% (Naivasha District Development Plan, 2008). The study therefore intended to document on the factors that have accentuated poverty in particular among small scale farmers and to identify gaps in the poverty alleviation initiatives in the study area and offer recommendations.

3.5 Target Population

According to Central Bureau of Statistics (1999), Naivasha Municipality has 56,538 households. Statistics show that 70% of the district population is engaged in agriculture and that 80% of the household incomes emanate from agricultural activities. These farmers own less than ten acres of land and apart from those farmers along the lake, the rest mainly practice rain fed agriculture (Naivasha District Development Plan, 2008). The activities by these small scale farmers are therefore hampered by the harsh climatic conditions for most of the areas are semi-arid. The target populations consisted of the following:

1. Development Agencies

From the preliminary study (see Appendix 7), there were registered 14 Community Based Organizations (CBOs), 10 Faith Based Organizations (FBOs) and 16 Non Governmental Organizations (NGOs). Most of these development agencies are more concentrated in the High Zone with the least in the Medium Zone, see Appendix 6.

2. Self Help Groups

Preliminary findings from the Department of Municipal Social Services offices records revealed that there were 205 registered Self Help Groups, see Appendix 5.

3. Farmers in the zones

The High Zone was represented by Lake View Ward (see Appendix 4). The number of households in Lake View Ward was 2,474 (CBS, 1999). Households directly involved in farming were 168. The researcher was availed the records of the original farmers of land in Lake View Ward. The Medium Zone was represented by Maraigichu (see Appendix 4). Number of households in Maraigichu was 2,522 according to CBS (1999). Taking into consideration that the major occupation in the area was farming, it was estimated that 1,765(70%) of these households were involved in various farming activities. The Low Zone was represented by Karati Ward (see Appendix 4). Karati has 4644 households (CBS, 1999). Of these households, 2322 (50%) were estimated to be directly engaged in farming activities.

3.6 Sampling Techniques and Sample Size

The sample size from the population consisted of 100 small scale farmers and 6 development agencies representing a cross-section of various poverty alleviation initiatives and 30 people for focus group discussions.

3.6.1 Sampling of farmers in Zones

High Zone

Households directly involved in farming in Lake View Ward that represented the High Zone were 168. The researcher had a predetermined threshold of 34 and therefore from the 168, a representative sample of 34(20%) was picked through use of judgmental sampling. Using the names of these 34 farmers, snow balling sampling was used to locate and interview the said farmers.

Medium Zone

Maraigichu represented this zone. Taking into consideration that the major occupation in the area was farming, it was estimated that 1,765(70%) of these households were involved in various farming activities. 35(2%) of the 1,765 households were included in the sample. This was derived using the online Sample Size Calculator from (<http://www.surveysystem.com>).

Low zone

The low zone was represented by Karati Ward. Of the total population of households, 2322 (50%) were estimated to be directly engaged in farming activities. A sample of 39(1.7%) of the 2,322 households was interviewed. This was derived using the Sample Size Calculator from (<http://www.surveysystem.com>)

3.6.2 Sampling of the Self Help Groups:

From the distribution of Self Help Groups by Zones/Wards (see Appendix 5) and through the assistance of the local chiefs and sub-chiefs, the researcher was able to identify four active self help groups in every zone. And from these, only one group per zone was sampled using judgmental sampling. The selection criteria for sampling the self help groups was as follows: must have been in operation with sustainable programmes in the last three years, involved in agricultural related activities, with stable leadership, with gender consideration, focused goals and willing to participate in the study. For each of the self help group that was to participate in the focus group discussions, the inclusion criteria of its members were as follows: ten members

comprising of three officials and seven ordinary members. This ensured that the discussions were not dominated by the group officials.

3.6.3 Sampling of Development Agencies

From the list of registered development Agencies (see Appendix 7) a sampling frame of 15 active development agencies was developed. This excluded those other development agencies which were reported not to be active on the ground at the time of study yet were registered. From this list, the researcher purposively sampled 6(24%). Criteria for inclusion of a development agency for sampling was that it must have been in operation for the last five years, had poverty related alleviation and mitigation programmes and that it was willing to participate in the study. The distribution of these development agencies in the sample was as follows: two Community Based Organizations, three Non Governmental Organizations and one Government initiative.

3.7 Research Instrument

A direct contact questionnaire (see Appendix 1) was used for data collection among the small scale farmers in the study. It was found suitable as it made it possible to establish rapport with the respondents. It allowed clarification of points through probing. It also led to minimal wastage of time and loss of questionnaires (Borg &Gall, 1983).

For the development agencies, an interview schedule (see Appendix 2) was used to

collect information on the organizations profile and activities in the community, their impact, challenges and future plans. The interview schedule made it possible to obtain data required to meet specific objectives of the study. It also helped standardize the interview situation so that the interview could ask the same questions in the same manner (Mugenda & Mugenda, 1999).

A focus group discussion guide (see Appendix 3) was developed to hold discussions with the self help groups. The guide was to provide insights into opinions, perceptions and attitudes of the members towards poverty in the area of study.

3.8 Pilot Study

The questionnaire was piloted using an identical sample of farmers, development agencies and focus groups. This was done to appraise the instrument revealing any clustered questions, vague and wrong phrasing of questions. Unclear items were reviewed, reconstructed and adjustments done to the final questionnaire. This also enabled the researcher to establish the validity and reliability of the research instrument.

3.8.1 Validity

Validity is the accuracy and meaningfulness of inferences, which are based on research results or in other words validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study (Mugenda & Mugenda, 1999; Kerlinger, 1973). Content Validity is a measure of the degree to

which data collected using a particular instrument represents a content of a particular concept. For the purposes of this study, experts who are competent in research methods and poverty issues were asked to assess the relevance of the content used in the research instruments. Their feedback was incorporated in the instrument used in the study. Validity of the instruments was further scrutinized during the pilot study.

3.8.2 Reliability

Reliability is a measure of the degree to which a research instrument yields consistent results after repeated trials (Nachmias & Nachmias, 1992; Mugenda & Mugenda, 1999). Content reliability in this study referred to ability of the questionnaire to yield consistent results after different testing periods. To determine the reliability of research instruments, a test-retest method was utilized.

For the purpose of the study and in order to determine the reliability of the research instruments, the questionnaire for small scale farmers was administered to forty two farmers, derived from the three zones; for the development agencies, the interview schedule was administered to four of their representatives; and focus group discussion guides were administered to three self help groups. The instruments were administered on two different occasions with an interval of two weeks.

After scoring the instrument a comparison was made to establish the extent to which the contents of the research instrument were consistent in eliciting the same response over time. Results of the pilot study showed that some of the items needed

modification and others were done away with. Reliability coefficient of the remaining items was over 0.80 and adopted for the study. The formula which was used to compute the reliability coefficient is shown below.

$$R_{xx^1} = \frac{s^2_t}{s^2_x}$$

Where x = performance on the first measurement

x^1 = performance on the second measurement

r_{xx^1} = Correlation coefficient between x and x^1

s^2_t = estimated variance of the two scores

s^2_x = calculated variance of the observed scores

Source: Nachmias & Nachmias, (1996)

3.9 Data collection procedure

In order to conduct the study in the selected zones, a research permit was sought from the Ministry of Education Science and Technology. Before doing the research, three research assistants were thoroughly trained on how to conduct interviews through use of questionnaires. They were also trained on simple observation techniques, probing and art of recording the answers on open-ended questions. This ensured objectivity and validity of data collected.

For the farmers, the researcher together with the three research assistants through the use of the semi-structured questionnaire interviewed the household heads at a time that

was convenient for them. For some, this was during the day as they did their farming activities while others in the evenings. The researcher had at times to reschedule the day of the interviews as directed by the household heads therefore going more than once to some households. To identify which households to sample, the researcher identified a central position which in this case was the shopping centre or a road dividing the area. Using the four sides of a campus, the researcher together with the three assistants each picked one side of the campus and thus from each direction started from the first household from that point and then every other 4th household until the required sample size was obtained.

For each of the focus group discussions, permission was first sought from the sub-chief to hold the meetings. After a permit was obtained, a date was set by the members self help groups and on the due date, members assembled at a central place this case being in a classroom in one of the schools. The researcher was actively involved in the meetings by leading the discussion following the focus group discussion guide.

For the development agencies appointments were sought from their offices before the actual day of interview. On the set date, a representative from each of the sampled agencies was interviewed individually, using the interview guide (Appendix 2). Subsequently, the researcher visited the sampled zones as a familiarization exercise and sought appointments with the development agencies and self help group management. During this visit, the researcher explained on the purpose and nature of

the study to the management of the development agencies and self help groups who then introduces the researcher to their members and farmers for further briefing.

3.10 Data analysis

Quantitative and qualitative techniques were used to analyze the data. Once data was collected, it was cleaned and coded by creating categories using numeric values. The data was then entered into spreadsheets and analyzed using Statistical Package for Social Sciences (SPSS) windows 2000' version 10.0 programme. This was used to analyze quantitative data to generate frequencies, means, percentages, percentiles and standard deviations. Qualitative data was analyzed thematically, where it was organized into categories then into themes for meaningful interpretation.

3.10.1 Analysis of Variance

Analysis of Variance (ANOVA) is a data analysis procedure that is used to determine whether there are significant differences between two or more groups of samples at a selected probability level (Mugenda & Mugenda, 1999). One way ANOVA is applicable where there is only one independent variable that is measured at either nominal or ordinal levels. The dependent variable is measured at either the ratio or interval scale. In this study, analysis of variance was used to test the influence of zonal areas in household wealth accumulation. Multiple comparisons (pair wise test) were done using Bonferroni test. This was used to test the strength of the resulting significant differences. Bonferroni was used because it allows all comparisons to be

made as it corrects all the increased risk of type errors reducing the significance level of individual comparisons and it is also easy to carry out (Harr, 2010).

3.10.2 T-Test

A T-test technique is used to test whether there are significant differences between two means derived from two samples or groups at a specified probability level (Mugenda & Mugenda, 1999). In this study the independent t-test was employed to test the effects of availability of water for irrigation and trainings on modern farming methods between those who did have and those who did not have access to them. This is because an independent t-test shows whether or not the difference between two samples means is significant (Hinton, 1995). All these hypotheses were tested at .05 level of significance.

3.11 Logistical and Ethical Considerations

In order to conduct the research, a research permit was obtained from the Ministry of Education, Science and Technology and the area administration including the District Education Officer and the chief. This helped reduce suspicion among the community members. Before any interview with the respondents, the respondents had to give their informed consent before participation in the study. The respondents were assured of total confidentiality and anonymity by use of household numbers instead of their names, assuring them that the information given would only be used for the purpose of the study. This was enhanced by making sure that the consent from the household head was sought before conducting any interview.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.0 Introduction

The following results were through direct contact questionnaires for 100 small scale farmers, interview schedules for 6 development agencies and focus group discussion guides for 30 members of self help groups.

4.1 Socio-demographic factors of the respondents.

In this study, socio-demographic factors referred to age, gender, household head and education.

4.1.1 Age of respondents

On age differentiation, 75% of the respondents were aged between 26 and 55 years. This indicated that the population was able bodied because only 25% of the respondents were above 55years. From age differentiation it was noted that since this population was at its productive years, differences in household income and wealth accumulation was not as a direct result of differences in age. Nevertheless, the age of the household head was found to influence perceptions, attitudes and practices on issues related to modern agricultural practices. The respondents aged between 26 to 36 years were found to better embrace training opportunities that touched on issues related to modern farming and family welfare.

4.1.2 Gender of respondents

On average, the study had an equal number of male and female respondents; however males were 59% slightly more than 41% female respondents.

4.1.3 Household Head

An analysis of headship of households revealed that 86% of the respondents indicated that their households were headed by males. Female headed households were only 14% which were composed of widows, divorcees and single parent mothers. A deeper analysis on household headship in relation to household resource management further revealed that men had a far greater role in decision making as regards use of household income. This was in spite of the fact that a majority of the labor force were women. More women than men were reported to spend much of their time in farming related activities.

These results substantiate the findings from the United Nations Development Programme (2003a), which asserts that large inequalities have accentuated poverty, and women suffer disproportionately as cultural and traditional practices often restrain equal access to economic resources and opportunities. The 37 female respondents who were not household heads but participated in the research, acknowledged that when it came to key decision making, their husbands had an upper hand and that they would not make any major decisions in their absence.

4.1.4 Education of respondents

According to the World Bank (2001), education plays a significant role in human development since it empowers people, improves their well being and enables them to actively participate in nation building. It empowers them by inculcating knowledge and skills needed to improve the income earning potential and in turn quality of life. It

was on this basis that the study sought to find out the levels of respondents' education and whether that had any bearing to their human development.

Table 4.1:- Highest level of Education of Respondents

Highest Level of Education	Frequency (N)	Percent (%)
No education	11	11.0
Primary Education	46	46.0
Secondary education	31	31.0
Tertiary	12	12.0
Total	100	100.0

According to Table 4.1 on distribution of respondents by level of education, it was found that 11% of the respondents did not have any formal education and 46% had primary level education, 31% secondary and 12% tertiary level of education. From the interaction with and simple observation of the respondents, the researcher found that those households that were more receptive to trainings and practiced modern farming belonged to household heads that had acquired secondary and tertiary levels of education.

The positive impact of education on modern farming practices was across the board regardless of the age differentiation. This was illustrated by very young but educated farmers and old (above sixty five years) but equally well educated farmers who owned most of the well managed farm holdings in the area of study. This category of farmers that was seen as models of good farming practices, reported participating regularly in trainings and workshops on farming organized by the various change agencies. It was

also found that the education had helped these farmers to become more enlightened on the need for better management of financial resources and where to source for such funds. They were also found to have knowledge on type, when to and how to use the chemical, fertilizers, good and right seeds. Of importance was the view by participants of focus group discussions that the human capital especially the youth in the area of study had not been adequately developed. They associated this to limited educational opportunities as was indicated by the absence of higher institutions of learning in the area of study.

4.2 Source of household income

In an attempt to find out the level of income of the households, the respondents were asked to indicate their major sources of income and their estimated monthly incomes. Of the 100 interviewed household heads on their main source of income, 67% indicated farming, 25% indicated small business enterprise and 8% said casual employment. In addition to this, the 25% of the respondents that had indicated small business enterprise also indicated that farming activities were their second and important source of income.

A close look at respondents, who indicated that their major source of income was small businesses, showed that they engaged in agro-business. From these responses, it was apparent that the major source of income for the three zones (High, Medium and Low) remained farming. This further explained the reason why most of the development agencies in the area of study had tended to focus mainly on agriculture.

4.2.1 Households' levels of income

From Table 4.2, it was apparent that a majority (30%) of the households had a monthly income between KShs. 4,000 to KShs. 6,000. At the same time, 21% of the households had a monthly income of above KShs. 8,000 to below KShs. 10,000. On one of the two extremes was an important percentage of households (19%), with less than Kshs 4,000.

Table 4.2: Households Levels of Income on monthly basis in KShs.

Level of Income	Frequency(N)	Percent (%)
Below 4,000	19	19.0
Above 4,000 to Below 6,000	30	30.0
Above 6,000 to Below 8,000	15	15.0
Above 8,000 to Below 10,000	21	21.0
Above 10,000	15	15.0
TOTAL	100	100.0

By all purposes this was a very small income, something that explained inadequate provision of food, shelter, clothing, education, water and sanitation and health. It was also among this category of households that reported no savings resulting to no investments and in a way finding them in a vicious cycle of poverty. The opposite was the case with the households with a monthly income above KShs. 10,000. These households (15%) were not only able to adequately meet their basic needs (food, clothing, and shelter), education and health services for their members, but they were also able to save and invest thereby improving their standards of living.

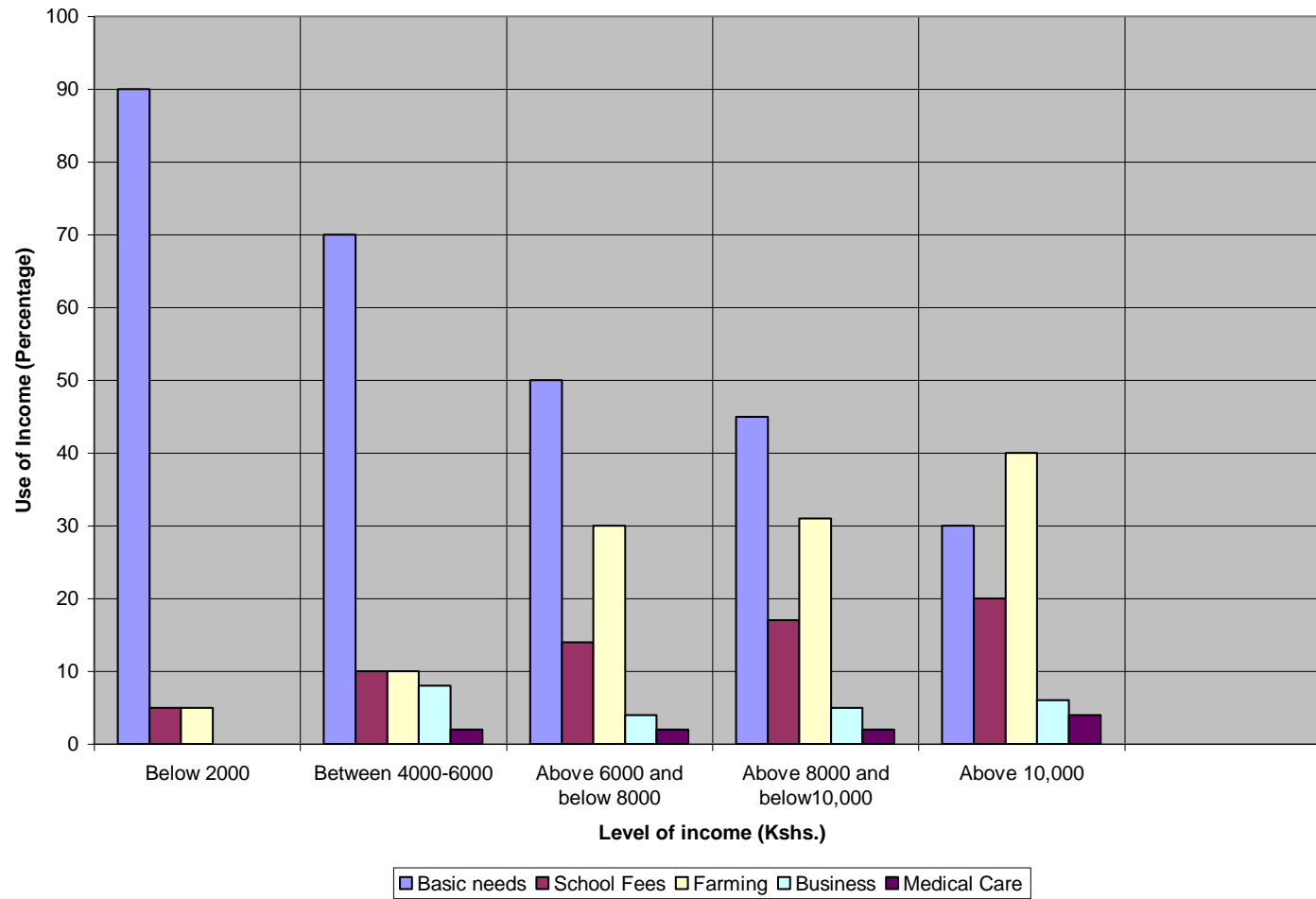


Figure 4.1: Level of Income by Expenditure Category

4.2.2 Expenditure of household income

By determining the levels of household incomes alone, the findings could not indicate the well being of the households. It was upon this that the study focused on how the generated income was spent. Figure 4.1 illustrates the levels of income and how such income was disposed. It was evident that the lowest income households (income below KShs. 4000) spent as much as 90% of their households' income to try to meet their basic needs. Very little income (5%), was reinvested to their major source of income (farming) thereby stagnating their incomes. On the other hand, as household incomes improved, there was a tendency of the percentage income spent on basic needs decreasing leaving room for savings and investments. This was demonstrated by the category of households whose income was above KShs. 10,000.

This group had as much as 70% of their income to dispose on other needs other than their basics. This group was able to re-invest 40% of its income in farming which was its main source of income. This was also the income group that had 6% of its monthly income invested in other income generating activities. This meant that those households with income that was beyond what they spent on their basic needs, were able to either reinvest the surplus income in farming activities or in other income generating projects.

4.2.3 Change in household income in the last two years

Since the study was undertaken after a succession of recurrent disasters and challenges such as droughts in the area, the study endeavored to understand the implication of this

on household income. The respondents were asked to indicate whether the household income had increased or decreased in the last two years. Most (91%) of the respondents interviewed reported a decreased overall income and only 9% indicated that their incomes had increased within the two years. The reasons given for the decrease in income were as summarized in Table 4.3.

Table 4.3: Reasons for decrease in income in rank order

Rank Order	Reason for decreased income	Frequency (N)*
1.	Drought	50
2.	Unemployment	45
3.	Lack of Credit and Capital	42
4.	Lack of Machinery	35
5.	Crop diseases	30
6.	Poor Economy	23
7.	Political interference	13

***Multiple Responses allowed**

As is indicated in Table 4.3, the leading causes of decreased income in rank order, were droughts, unemployment and lack of credit and capital. This was further supported by the sentiments from the various focus group discussions who felt that the poor had very little of government support and in particular to mitigate the effects of recurrent droughts in the area of study.

Of the 100 small scale farmers, 70 indicated that they did not have water for irrigation, rather relied on rain fed agriculture. The reasons for reliance on rain fed agriculture were that they lacked capacity (skills and machinery) to irrigate. Others reported that

water for irrigation from Lake Naivasha and manmade dams had earlier dried up as a result of recurrent and prolonged droughts hence a decrease in farm production resulting to decreased household income. Respondents, who reported increased income (9%), attributed this to trainings and seminars on farming by various development agencies, accessibility to credit and capital and entrepreneurial activities. In addition to these, they practiced irrigation and hence a significant increase and reliability of household food, increased acreage under cultivation, increased animal fodder and general increase in income. This surplus in income was disposed to increase acreage under farming, buying of land and plots elsewhere, upgrading housing, purchase of better machinery and some financial savings in financial institutions.

Further analysis indicates that increased farm production has been attributed to use of appropriate farm inputs, embracing of modern technology and continuous investment in farming. The role of the development agencies was noted to have been instrumental in training the farmers in the use of modern technology, provision of farm inputs (seeds, fertilizers, machinery, and capital), extension services, and assistance in marketing and general community resource mobilization.

4.2.4 Mitigation Initiatives for decreased income

Respondents who reported having experienced decreased income undertook the following initiatives to reverse the situation. As a result of decreased income, most of the household resulted to both self driven initiatives and NGO initiatives to address this problem as shown in Table 4.4. Most of the household heads joined self help

groups to enable them share ideas and experiences on farming and in particular on how to mitigate the effects of drought. This group situation also enabled them to access group trainings and financial services from credit providers and other development agencies. It also helped them to pool resources such as finances together to build green houses and dig dams.

Table 4.4: Household Based Poverty Alleviation Initiatives

INITIATIVE	FREQUENCY (N)	PERCENT (%)
Joined Self Help Groups	25	25
Started Income Generating Activities	12	12
Engaged in Green House Farming	25	25
Sought Financial Assistance	9	9
Sought Casual employment	2	2
Dug Dams	2	2
No response	25	25
TOTAL	100	100

As groups, they also were able to competitively market their agricultural products. These findings augured well with those of Thompson et al (2007) that such initiatives provide a basis for collective action, for building consensus, for undertaking coordination of responsibility and for collecting, analyzing and evaluating information. Other initiatives that were undertaken in response to decreased income included: seeking financial assistance, casual employment and green house farming. Majority (65%) sought financial assistance from self help groups, friends and relatives (informal institutions) or a combination of informal and formal sources. Only 23%

indicated that they sought financial assistance from formal financial institutions. Probed further on the preferences, the respondents explained that while financial services providers would ask for collateral and other conditions, the informal sources had no strict conditions. The financial services providers were also said not to fully understand the problems of the small scale farmers, charged high interest rates and in most cases asking financial applicants to form groups for them to be financed. Others reported that the financial service providers were absent in their area. These results substantiated findings of Mutua and Oyugi (2006), who pointed that most formal financial institutions do not serve the poor due to lack of usable collateral, dependence of the poor on seasonal agricultural activities, high transaction and information costs and weak contract enforcements.

4.3 Land as a key household resource

In this study, land was considered an important variable when assessing household wealth accumulation. From the Table 4.5, the study found that the majority (65%) of the small scale farmers owned between 0.25 to 3 acres and only 25% of the small scale farmers own between 5 and 9 acres. The smaller the farms, the higher the limitations were of land use and mechanization. The study also found that these small scale farmers were not capable of producing enough food from the small acreage. A significant number of very small scale farmers with acreage of between 0.25 and 1 acre (24%), were found to be involved in casual employment particularly in the flourishing large flower and horticultural farms in the area and in the farms owned by slightly larger small scale farmers, some of which were their own neighbors. The small size of farms also limited the variety in farming activities as opposed to those

with larger farms (between 5 and 9 acres). The small size of farm holdings also made it difficult for potential development agencies to develop interest in these areas. This point was echoed in all focus group discussions where it was felt that the donors had failed to focus their attention to the neediest segment of the population (the very small scale farmers).

Table 4.5: Size of land owned by farmers

Acreage	Frequency(N)	Percent(%)
0.25	2	2.0
0.50	3	3.0
0.75	1	1.0
1.00	18	18.0
1.50	6	6.0
1.75	1	1.0
2.00	16	16.0
2.50	5	5.0
3.00	13	13.0
3.50	2	2.0
4.00	8	8.0
5.00	9	9.0
6.00	8	8.0
7.00	1	1.0
8.00	5	5.0
9.00	2	2.0
Total	100	100.0

This scenario put these very small scale farmers in a vicious cycle of poverty, whereby because they owned very little land could only produce very little, have limited land use, limited collateral to enable access to financial support, limited access to

agricultural extension services thus affected production levels hence retaining them in that state of poverty. In general terms these very small scale farmers were not able to break from this chain of poverty regardless of their efforts. The study found that those with slightly bigger farms (between 5 and 9 acres), were capable of hiring machinery like tractors, engaged in a variety of farming activities, accessed financial support (where land was used as collateral) and extension services. This enabled this category of small scale farmers not only to produce enough food crops but to also produce cash crops. This further explained why this category of farmers was in an overall better economic level as explained by the nature of housing, ability to save and invest in and outside farming, access to privately provided health services, took their children to private schools and colleges and the type of crops grown, usage of chemicals and fertilizers.

4.4 Empowerment of farmers through training

Streeten (1994), asserts that it is important for farmers be given capacity not just to produce but to earn real money from production. It is evident that increased production does not always translate to more money for the farmer. It is therefore important for farmers to be trained on the value chain of their produce, forces that determine prices like quality and quantity, the policies of the legal framework of production and marketing and how it affects them, and to develop their capacity to negotiate prices and conditions of sale. It was on the basis of this that the study sought to find out whether the farmers had ever received any training, the areas they had been trained in and how the training had impacted on their livelihoods. A summary of the

responses is presented in Table 4.6. When asked whether the small scale farmers had received any forms of training in agriculture, 47% of the household heads reported having received trainings from various development agencies.

These included NGOs, Ministry of Agriculture, Animal Feed and Care Manufacturers, Pharmaceutical companies and financial providers such as banks and micro-finance institutions. The areas of training included: spraying, zero grazing, green house technology, horticulture, soil fertility, marketing and financial management.

Table 4.6: Areas of training in modern agricultural practices

Areas of training	Frequency (N)	Percent (%)
Spraying	8	8.0
Irrigation	20	28.0
Livestock farming	7	7.0
Drought resistant crops	3	3.0
Greenhouse technology	2	2.0
Horticulture	5	15.0
Soil fertility	2	2.0
No response	53	76.0
Total	100	100

For example they indicated that training of green house technology enabled them to grow short term horticultural crops thereby ensuring reliable and periodic income. They further reported that horticulture yielded better returns, had a shorter farming and maturation period compared to maize and potatoes their staple crops and better land

utilization. Ready and local international markets had also encouraged the shift, dumping some of the oldest mainstay crops in the region.

They therefore had resorted to growing of farming baby corn, French beans, snow and garden peas, sugar snaps, asparagus and pepper. The positive impact of the trainings as indicated by the farmers emphasized the positive role that the various development agencies had on the livelihoods of their target group (small scale farmers). Further analysis on small scale farmers training revealed that there was a felt need for further capacity building in the areas of irrigation, horticulture, rain harvesting, drought resistant crops and value addition on farm outputs

4.5 Household Food security

According to World Development Indicators (2008), food security is defined as the capacity of a household to procure a stable and sustainable basket of adequate food. Based on this definition, most (74%) of the small scale farmers reported that for the last two years, they had not harvested enough food for their families to last them to the next harvesting season. They attributed this to recurrent and persistent droughts, lack of farm inputs, political interference and general poor economy. Asked how they mitigated the impact of poor harvests, the respondents said they borrowed food and money from friends and relatives, got donations from NGOs and governmental initiatives, sold family property and joined self help groups that enabled them to pool resources together. From these findings, it was apparent that majority of the small scale farmers were not able to effectively meet the food requirements for their

families.

This limited scope of agriculture had mostly to do with the unstable rainfall regimen. This substantiated the findings of Rockstrom (1999) that a majority of the population in Sub Saharan Africa depends on smallholder, subsistence agriculture for their food security. The small-scale farmers further reported that if the situation did not significantly improve, they would find themselves poorer than they were three years back. It is important to observe that the fears expressed by the farmers did not get the attention of the development agencies in that there were no programmes on the ground to address them. For example, even with the forecasted El-Niño rains, the government and other development agencies had not put measures of how to harvest and conserve the abundant rain water which the farmers could later use during the dry seasons.

Further to this, majority of these small scale farmers felt that if they had the capacity to tap on the expected rains, this could translate to increased farm production hence alleviation of poverty at household level. These sentiments compare well with the findings by Benites et al, (1998) that there was a growing understanding that the major cropping system that mainly includes the rain fed agriculture in Sub Saharan Africa is not sustainable. To mitigate the effects of drought, the small scale farmers by their own limited efforts had resulted to digging and construction of manmade dams at both household and community level. This was not practiced before the onset of the drought. In addition, it was also observed that a majority of households owned and others were in the process of owning water reservoirs (tanks).

Other efforts to address water shortage included digging of boreholes at the community level. The study found that the few households that were able to mitigate this water shortage through the foresaid measures practiced small scale drip irrigation and overhead irrigation. As a result of these measures, these few farmers (30%) were able to reap a harvest and sell their farm produce at very good prices. These same farmers had also become models and were used by development agencies as reference points. The rest of the farmers (70%) suffered from the prolonged drought as was evidenced by the low agricultural production and low incomes.

4.6 Health Services

According to the Kenya National Bureau of Statistics (2008), a healthy population is capable of participating in economic, social and political development thus; good health is a pre-requisite to the socio-economic development of any country. The area of study was endowed with private, public and missionary provided health services. The distribution of these also differed from one zone to another. The High Zone had more of public, private and missionary provided health services. The reason for this was found to be that the zone was at the periphery of Naivasha town which had better means of communication, electricity and water. In addition, unlike the Medium and Low zone, the High zone had a high population density thereby attracted private practitioners.

An analysis of the health services sought by the small scale farmers in Medium and Low zones showed that a majority preferred services from public and missionary

health facilities since they offered services at affordable charges. Asked how they met the cost of health care of their family members, (88%) indicated farming. This indicated that when farming which was their main source of income became adversely affected by various factors, then provision of health services at household level was also affected. Therefore this signified the importance of farming in the livelihoods to these small scale farmers well being.

4.7 Household Asset Mapping

The asset mapping at household level was undertaken for the purpose of determining wealth accumulation and to some extent to be able to determine the poverty levels in the area of study at the household level. This study looked at the ownership of land in terms of acreage, machinery, number of animals owned, housing type, electrical appliances and household furniture.

4.7.1 Acreage, Machinery, Housing, Furniture and Electrical Appliances

In terms of land size, majority (65%) of the small scale farmers owned between 0.25 and 3 acres and 25% owned between 5 and 9 acres. On machinery, vehicle ownership was found to be limited (9%), tractor (1%) and water pumps (20%). Almost all of those farmers who owned the water pumps were from the High Zone where they were used for irrigating their farms with water from Lake Naivasha. Most of the farmers (60%) were found to own at least one cow and 60% of the households owned two to four sheep or goats. A few (10%) of the small scale farmers practiced poultry farming. On housing, the study found a mixed scenario. The Low Zone had 80% of the houses

being permanent (stone houses).

A deeper analysis of this situation revealed that, despite this area being a low agricultural area, most of the houses were permanent. This was attributed to fact that most of the pension workers in the area had bought and developed land there and in addition to farming, they were also engaged in other income generating activities in and outside the zone. In the High Zone, there was a mixture of permanent and semi-permanent housing. A significant number (60%) of small scale farmers have embraced modern farming methods. It is from this category of farmers that permanent houses were found. As regards the Medium Zone, a more rural kind of situation was prominent as was characterized by the 90% semi-permanent houses.

On ownership of electrical and household furniture, the study found that these two went almost hand in hand with the type of housing. The Low Zone characterized by permanent housing, was found to have the highest number of households with television sets, radios, sewing machines, good and modern furniture. About 50% of the Medium Zone characterized by semi-permanent housing did not have modern electrical appliances and household furniture. The High Zone (Lake View Ward) which comprised of a mixture of both permanent and semi-permanent housing had also a mixture of households with both modern and old electrical and household appliances.

4.7.2 Annual Wealth Accumulation of Households

Through asset mapping, the study developed a distribution of annual wealth accumulation of households. Wealth accumulation was taken to refer to only wealth that was accrued through engagement in farming and farming related activities. Any gifts, inheritance, donations were not included as part of wealth accumulation. The annual wealth accumulation was calculated through summation of total assets divided by current age of respondents minus 18 years.

The study noted that the national definition of an adult is 18 years and therefore the study took that any accumulation of wealth was after 18 years of age. From Table 4.7, the minimum wealth accumulation in a year in the area of study was KShs. 5,701, mean wealth accumulation in a year was KShs. 96,215 and the maximum is KShs. 292,208.

Table 4.7: Annual wealth accumulation per household in Kshs

Minimum	5701
Percentile 05	14119
Percentile 25	37448
Median	83258
Percentile 75	137348
Percentile 95	257458
Maximum	292208
Mean	96215
Std Deviation	70706

One notes a big gap between the maximum and minimum average wealth

accumulation thereby indicating income disparities within the various households in the study area.

4.8 Amenities, Water and Sanitation

The following section presents the statistics on the accessibility and use of household amenities in particular water, sanitation, energy and lighting. The accessibility to these amenities had a direct impact on the welfare of household members.

4.8.1 Major Sources of Household water

Majority of the households (63%) indicated that their main source of water was community wells and 20% household owned boreholes and the rest (17%) depended on water vendors. The area hardest hit by scarcity of water was the Medium zone. This was found to be an unfortunate situation, in that among the three zones it was the area with the highest rainfall. This was an indicator that there were no initiatives for water harvesting such as community based sources of water. For the individual small scale farmers in the area, they depended on their own dug boreholes which tended to dry up.

On the other hand, the Low Zone had permanent community based boreholes which were reported to be reliable. A similar situation was found in the High Zone which used Lake Naivasha waters and household based boreholes facilitated by high water table. The respondents did not report cases of outbreak of water borne diseases. This was attributed to the fact that access to safe water and improved sanitation had reduced incidence and prevalence rates of water borne and infectious diseases. Time

taken to the sources of water was on average thirty minutes. This was interpreted to mean that the distribution of water supply was adequate for the households.

4.8.2 Type of Toilet Facility

Adequate sanitation includes the use of flush toilets (to sewer/ septic tank), covered pit latrine, and ventilated improved pit (VIP) latrine for waste disposal. Inadequate sanitation includes the use of pan/bucket, uncovered pit latrine and also includes housing having no toilet (Kenya National Bureau of Statistics, 2007). In the three zones of the study, the common sanitation facility was the pit latrine which was found to be adequate. Every household had a clean pit latrine within the household compound. The flush toilets were mainly found in households with permanent housing in the High and Low zones.

4.8.3 Source of fuel and lighting

Wood (72.9%) and charcoal (22.9%) formed the greater percentage as sources of fuel for cooking. This was because the setting of the study was rural in nature. This is in conformity with the trend where the rural households depended on wood as their main source of fuel for cooking (Central Bureau of Statistics, 2003). The remaining 4.2% of the small scale farmers used paraffin as their source of fuel for cooking. As regards lighting, the major sources were electricity (50%) and paraffin (42%) and the least source solar (8%). From these findings, it was apparent that the small scale farmers had benefited greatly from the Rural Electrification Programme. These small scale farmers indicated that provision of rural electricity had enabled them to initiate various

poverty alleviation projects such as posho mills, welding and fabrication, poultry rearing, hair salon and barber shops.

4.9 Poverty Alleviation Initiatives

The poverty situation in the area of study had attracted concerted efforts towards poverty alleviation. Some of these poverty alleviation initiatives had been initiated by farmers themselves while others by various Non Governmental Organizations and the Government of Kenya.

4.9.1 Households Poverty Alleviation Initiatives

Almost all household heads (95%) indicated that poverty was an issue in their households and that they had initiated mitigating activities. Out of 100 respondents, only 5% of household heads indicated that they had not been inflicted by poverty since they were able to generate enough income from farming. Some of the Poverty Alleviation Initiatives that the farmers had engaged in include:

- a) Joining self help groups for the purpose of pooling resources together enabled them to initiate socio-economic activities such as poultry farming, digging man made dams, building nurseries and primary school and planting trees thus being economically empowered.
- b) Others engaged in retail business such posho mills, barber shops and salon, welding and fabrication. This initiative was undertaken by 23% of the respondents.
- c) Casual employment was the other initiative. The rapid growth of large scale horticulture and floriculture farms in the area had created opportunities for casual

employment thus giving the small scale farmers an opportunity to boost their income.

- d) Acquiring loans from financiers. A significant number (14%) of small scale farmers had sought financial support from various financial institutions and development agencies.

4.9.2 Other types of Poverty Alleviation Initiatives and Community

Awareness

Apart from household initiatives, the study found that 73% of the household heads were aware of other poverty alleviation initiatives emanating outside the community (external poverty alleviation initiatives). Nevertheless a significant number (27%) of the households reported not having knowledge of the poverty alleviation initiatives in the community as in Table 4.8. The area of study had attracted development agencies with varied strategies towards poverty alleviation.

Table 4.8: Awareness of the various types of Development Agencies

Poverty Alleviation Initiatives	Frequency (N)	Percentage (%)
Government Initiatives	24	24
Community Based Initiatives	26	26
Faith Based Organizations	10	10
International NGOs	1	1
Farmers initiatives	8	8
Micro finance initiatives	4	4
No response	27	27
Total	100	100

The diversity of the strategies by these development agencies augured well because

poverty is a multidimensional phenomenon that goes beyond lack of incomes (World Bank, 2001). The following were some of the development agencies and the activities they were involved in and their impacts in the area of study.

- a) Financial providers such as K-Rep, Faulu Kenya and Equity Bank offered the farmers opportunity to save either as individuals or groups, gave loans to farmers at low interest rates of 1.1% per month. Also K-Rep had collaborated with Family Health International in their Fahida Project whose main aim was to mitigate the impact of HIV/AIDS through sustainable micro-finance services especially among the female-headed households who were small scale farmers. The impacts on their target groups included better standards of living through improved household incomes. The health of the infected had improved as they were able to acquire subsidized health care services provided.

- b) Africa Now whose mission is to reduce poverty in Kenya by promoting entrepreneurship and linking people to sustainable markets and ethical supply chains was involved in helping the marginalized small scale farmers. This had been through:
 - i). Imparting knowledge of higher value products.
 - ii). Business skills training.
 - iii). Market knowledge and helping small scale farmers export floriculture by linking them to export markets through large scale producers.

The impacts reported by the small scale farmers were that they had direct market for products with good market prices thus eliminating brokerage, farmers worked

collectively and this had helped them acquire bargaining power and on overall increase of households income leading to economic growth of the targeted areas.

c) K-NOTE (Kenya National Outreach Counseling and Training Programme)

mission is to work with farmers and their household in the bid to cope and improve health and economic development towards a sustainable future. The organization was necessitated by the twin issues of HIV/AIDS and unemployment because the toll of these was still high among farmers and their households. K-Note had impacted the community as was evidenced by:

- i). An overall decrease in prevalence and incidence rates of HIV/AIDS infection in the area.
- ii). Support of 15 women's groups to run successful small businesses such as farms, poultry, pig, and dairy farming. These proceeds were used in taking care of their households.
- iii). The Women's Peace Project had reached 1000 community members through trained community dialogue facilitators leading to a reduction in community hostility in the High zone. Through their trained peer educators and theatre thespians, the community in particular the youth have made improved and informed choices.

d) KENFAP (The Kenyan National Federation of Agricultural Producers) mission is to empower farmers to make informed choices for improved sustainable livelihoods. Its achievements included: -

- i). Farmers had tapped into collective marketing.

- ii). Farmers initiated and owned micro projects in economic activities that had added value hence increasing product quality attracting high prices
 - iii). Farmers had accessed credit and finances thus increased their agricultural production.
 - iv). Farmers could negotiate prices since they were able to enter into contracts and understand contractual obligations through farmers capacity building.
- e) Horticultural Crops Development Authority (HCDA) is a government initiative whose main objective is to develop, promote, coordinate and facilitate horticultural products and enhance social economic sustainability. Farmers had been able to acquire the following services from this initiative:
- i). Pre-cooling facilities and pack houses for handling horticultural produce.
 - ii). Specialized extension services aimed at promoting horticultural production.
 - iii). Marketing through organized farmers' groups.
 - iv). Stabilizing supply and demand by advising on production and market trends.
 - v). Facilitating increased production of top quality produce for local and export markets.
- The impact on farmers had been: increased awareness among farmers on export and local markets, increased production and marketing of quality horticultural products both locally and internationally.
- f) Kenya Plant Health Inspectorate Service (KEPHIS) is another government initiative whose mission is to provide a regulatory service for assurance on quality

of agricultural inputs and produce thereby promoting sustainable economic growth and development. Farmers reported to have benefited by:

- i). Having access to certified seeds
- ii). Increased awareness of their rights and obligations
- iii). Pesticides in the markets hence reduced chances of introducing new pests and diseases.
- iv). Production levels of agricultural products had increased.

g) NAWACOMP (Naivasha Watershed Conservation and Management Project) goal is to enhance environmental management and poverty alleviation. The organization had:

- i). Successfully rehabilitated over 33.7 hectares of Eburru forest through enrichment.
- ii). Over 100,000 seedlings planted on farms and public areas thereby reducing soil erosion and increasing rainfall thus ensuring continual flow of rivers into lakes and improved irrigation.
- iii). Established 17 community tree nurseries within Lake Naivasha catchment's area.
- iv). Set apiaries for nine self help groups with over 120 Lang troth for honey production.
- v). Initiated fish farming through collaboration with the Fisheries department.
- vi). Worked with community groups on proper waste disposals through training and demonstrations.

The above analysis on the various development agencies substantiated the findings that 52% of the small scale farmers reported they had benefited from them and 48% indicated they had not. For those who indicated that they had not benefited from the various poverty alleviation initiatives attributed it to lack of their presence in certain areas such as Medium zone. Unlike the other zones (High and Low zones), the Medium Zone had not attracted as many of the development agencies. Further to this, most of the initiatives by the government agencies tended to focus more in community based projects rather than individual farmers. From the farmers' perspective, the benefits from these community based projects had not effectively trickled down to impact on their well being as individuals farmers. On overall, 78% respondents expressed dissatisfaction with the manner in which they had been disregarded in the planning of various poverty alleviation initiatives.

Almost all development agencies were accused of using the top down approach to development that denied the farmers their input in all stages of the project life cycle that includes planning, implementation, monitoring and evaluation. This is in accordance to World Bank, (2001) where sustainable agriculture cannot succeed without the full participation and collective action of rural people and land managers. In addition, for sustainable agriculture to succeed, projects must choose a learning process rather than rely on blueprints. These projects should start small and cheaply. They should have uncomplicated design and not try to over innovate. The best introduced technologies are low risk, easy to teach, tested under local conditions and

offer the prospect of clear, on-site benefits once the facilitators leave the project.

4.10 Hypothesis testing

The following hypotheses that guided the study were tested

H0₁: There was no significant difference between farmers who received training on modern agricultural practices and those who did not.

Table 4.9: Annual Wealth Accumulation by training on agricultural practices

Training	Mean	Std. Deviation	T- value	Sig. T
Untrained	77,851	58315	-2.807	0.006*
Trained	116,924	78029		

***p<0.05**

Farmers who had received training on modern agricultural practices tended to have an overall better income and a fairly good standard of living to those who were untrained. Table 4.9 illustrates that there was a positive relationship between wealth accumulation and the trainings the farmers had received. From the means in Table 4.9, small scale farmers who had received trainings (47%), were able to accumulate over KShs. 100,000 while those who had not received training (53%), accumulated less than KShs. 80,000 per year.

Independent Samples T-Test were conducted and test results were; $t(84.5) = -2.807$, $P\text{-value} = < 0.05$ at 95% confidence level therefore the null hypothesis was rejected. It was concluded there was a significant difference between farmers who received training and those who did not. The success of small scale farmers in the area of study was

therefore attributed to training by the various change agencies operating in the area of study. In the same vein Streeten, (1994) observed that it is important for farmers to be given capacity not just to produce but to earn real money from production.

H₀: There was no significant difference between farmers who had water for irrigation and those who did not have access

Table 4.10: Availability of water for irrigation by annual wealth accumulation

Water for irrigation	Mean	Std. Deviation	T- Value	Sig. T
Available	74,682	61347	-4.674	0.001*
Unavailable	137,421	68546		

***p<0.05**

Table 4.10 reveals that the small scale farmers that had access to water for irrigation reported higher mean wealth accumulation of KShs. 137,421 while those who depended on rain fed farming had a mean of KShs. 74,682. The availability of water enabled the small scale farmers in the High zone to maximally utilize their land even during from the prolonged drought (2007-2009) in that their produce sold at far better market price than any other period. At the same time a majority of farmers from the other two zones (Medium and Low) that depended on rain fed agriculture suffered tremendously.

Independent Samples T-Test revealed that there were significant differences between those who had water and those who did not have water for irrigation $t(96) = -4.674$,

$P < 0.05$ at 95% confidence interval. From the foregoing analysis and tests, the null hypothesis was therefore rejected. There was strong evidence to show that there was significant difference between farmers who had water for irrigation and those who did not. This is consistent with the findings of previous studies of Rockstrom (2000) who reported that despite the majority of the population in Sub Saharan Africa depending on subsistence agriculture for their food security, the major cropping system that is rain-fed agriculture is not sustainable hence the great emphasis In irrigation technology.

H0₃: There was no significant difference among agricultural zonal areas and annual wealth accumulation.

The study compared the annual wealth accumulation by the three zones here referred to as High, Medium and Low. Table 4.11 shows the disparities in annual wealth accumulation in the three zones.

Table 4.11: Annual Wealth Accumulation in KShs. by Zones

Zones	Mean	Std. Deviation	F-value	P value
Medium	58957	50525	21.769	0.001*
High	149917	62740		
Low	76070	62411		
Total	96215	70710		

* $p < 0.05$

Findings show that the High zone had a mean annual wealth accumulation of KShs. 149,918 followed by Low zone with KShs. 76,070 and Medium zone with KShs.

58.957. One way analysis of Variance (ANOVA) was done to investigate the annual wealth accumulation by the three zones. The $F=21.769$, $df=2, 97$; $p=0.001$ implying that there was very high evidence to show that the mean level of annual wealth accumulation was different among the three zones. To investigate which regions differed in terms of annual wealth accumulation, multiple comparisons (pair wise test) were done using Bonferroni test.

This test revealed that while the High Zone differed with the other two regions (P value $=0.001$), there was no significant difference between Medium and Low Zones in terms of annual wealth accumulation (P value $=0.743$). It was evident that the High zone compared to the other zones had access to water from Lake Naivasha for irrigation even during the drought period. In addition, there was a high concentration of development agencies in the area and farmers had better access to market and better market prices for their produce.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

5.0 Introduction

This chapter covers the summary of the major findings from the research, conclusions, recommendations, and suggestions for future research.

5.1 Summary

1. The small scale farmers in the area of study had opportunities such as high land potential, presence of a land water source (Lake Naivasha), a rapidly growing infrastructure, availability of cheap labour and markets. This was in addition to capital and credit, training opportunities in modern farming, extension services and markets.

2. For household asset mapping, majority of the small scale farmers owned land between 0.25 and 3 acres with a minority owning between 5 and 9 acres. On machinery: vehicle, tractor and water pump ownership was limited. Most farmers owned at least one cow or two to four sheep or goats. On housing, the Low zone had most of the houses being permanent, also reporting the highest number of households with television sets, radios, and sewing machines, good and modern furniture. The High Zone had a mixture of permanent and semi-permanent housing. In the Medium Zone, most of the houses were semi-permanent with the highest number of households not having modern electrical appliances and household furniture.

3. It was realized that natural resources alone did not influence wealth accumulation in the households, since in the same zone one could distinguish households in various income brackets. The High Zone differed with the Medium and Low zone in terms of wealth accumulation. The differences were explained by personal initiatives, embracing modern agricultural practices, access to external finance, accessibility to markets, acreage and trainings on agriculture and agribusiness.
4. The key challenges that faced the small-scale farmers in meeting their basic needs included: natural disasters such as recurrent droughts, inadequate farm inputs, poor infrastructure, lack of technical knowhow on modern agricultural practices, lack of control of market dynamics for their agricultural produce.
5. Poverty alleviation initiatives took two formats namely: household-based poverty alleviation initiatives and external poverty alleviation initiatives. Majority of the respondents reported to have benefitted in one or more of the household-based poverty alleviation initiatives. These initiatives included: self help groups, income generating activities, green house farming, financial assistance, casual employment and dug dams. The benefits included: a forum to share ideas and experiences with other farmers, access to group training, pooling resources together and competitively marketing their produce.

About half of the respondents reported to have benefitted from the external poverty alleviation initiatives. Some of the initiatives included training, improved market access and provision of subsidised health and education services.

6. The effectiveness of the development agencies in the area was found to have been limited by their lack of networking and synergy in community development efforts leading to overlap, competition and conflicts
7. Under hypothesis testing, findings revealed that there were significant differences between farmers who had access to training in modern agricultural practices and those that did not ($p < .05$). There were also significant differences between farmers who had water for irrigation and those who did not have access ($p < .05$). Findings also revealed that the High, Medium and Low agricultural potential zones differed significantly in terms of annual wealth accumulation ($p < .05$). The higher the agricultural potential of zone, the more the annual wealth incomes.

5.2 Conclusions

The following conclusions were made:

1. The poverty alleviation initiatives that made the most of the contribution to the small scale farmers were:
 - a. Training on modern agricultural practices
 - b. Access to water for irrigation
 - c. Financial assistance
2. Better coordination and collaboration should characterise the various poverty alleviation initiatives as this will reduce duplication, waste of resources, and competition hence better output in terms of poverty alleviation.

5.3 Recommendations for Policy and Practice

From the study findings, the following recommendations have been made:

1. That since training on modern agricultural practices had been found to positively impact on household production, income, savings and investments and overall wealth accumulation at household level, it is recommended they be expanded and replicated to other areas within and outside the study area by the various development agencies and farmers.
2. The input supply-production-marketing continuum should be improved. For production efficiency to increase, then the required inputs such as fertilizer, pesticides, seed and farm implements must reach the farmer on time. Having an optimum extension worker-to-farmer ratio can enhance production. In this vein agro-processing industries should be established to add value to products so as to maximize the returns to the farmer. Transport should also be available to ferry the produce to the market and prices should be determined with the view to promoting agricultural growth.
3. There is need for the various development agencies to be coordinated for them to effectively and efficiently function, and not to concentrate only on high potential areas where success for their efforts is more guaranteed.
4. Efforts towards poverty alleviation should focus on increasing small-scale farmers' productivity, as well as pay attention to diversification of small-scale farmers' sources of income.

5.4 Recommendations for further research

The researcher has suggested the following areas for research:

1. To determine the impact of education and training in poverty alleviation in a similar agricultural setting.
2. To evaluate the impact of multiple development agencies in local communities.

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Appendix 1: Researcher Administered Questionnaire for Small Scale Farmers

THE SOCIO-ECONOMIC INDICATORS OF POVERTY LEVELS AMONG SMALL SCALE FARMERS IN RURAL NAIVASHA, KENYA.

I am carrying out a research on the analysis of poverty alleviation initiatives in rural Naivasha. This questionnaire has been constructed so as to help me gain information that will be useful in the research. The information will be treated with utmost confidentiality and used only for the purpose of this study only.

SECTION A: IDENTIFICATION

Household Number _____
 Date of interview _____
 Name of Interviewer _____
 Name of village _____

SECTION B: DEMOGRAPHY

1. Age of respondent _____
 2. Gender of respondent _____
 3. Marital Status of respondent _____
 1) Single 2) Married 3) Widowed 4) Divorced 5) Separated
 4. Who is the head of the household- the person who is the principal decision maker?
 1) Husband 2) Wife
 5. How many persons in your household (those who live together and share same food at least once a day - are
- | | | Number of persons |
|----------|---|--------------------------|
| Adults | - | 18years of age or older |
| Children | - | 17 years of age of older |

SECTION B: EDUCATION/ MARITAL STATUS/ OCCUPATION

6. What is the highest education level of
 - a) House Hold Head [_____] level
 Code **0. No Education**
1. Primary Education
2. Secondary Education
3. Tertiary Education
 - b) Would you say that your education has helped in the management of day to day activities?
 1. Yes [] 2. No []

- i) Size of land _____
- ii) Use of land in _____
- a. Subsistence farming _____
- b. Cash crop farming _____
- c. Rental _____
- d. Under buildings for rental and self occupation _____
- e. Livestock _____
- f. Idle land _____

- b) Do you have water for irrigation?
 1. Yes (go to Qn 13d) 2. No (go to Qn 13c)

- c) If No, why? _____

Coded 1= Rely on rain fed agriculture
2= Lack of capacity to irrigate
3= Have not seen the need to

- d) How do you compare your farming production levels now when you use irrigation technology and before when you did not?

Coded 1= Increased income
2= Increased & reliable household food
3= Increased acreage under cultivation
4= Increased animal fodder

14. If your income has been increasing over time, what are the three major areas you dispose of it?

- 1) Savings
- 2) Rental houses
- 3) Better machinery
- 4) Livestock
- 5) Increased acreage under farming
- 6) Buying of land and plot elsewhere
- 7) Upgraded housing
- 8) Increased household assets

15. In addition to irrigation use, what else can you attribute your increased farming production to?

Coded 1= Use of appropriate farm inputs (seeds, fertilizer, pesticides)
2= Embracing of modern technology
3= Continuous investment in farming

16. a) Have you received training on farming?

1. Yes (go to 16c-f) 2. No

b) If no, would you want to receive training?

1. Yes [] (go to 16f) 2. No []

c) If yes, by who? _____

d) Which areas of training did you receive?

1) 2) 3) 4)

e) Of these, which have been most useful?

1) 2) 3) 4)

f) What areas would you want to be trained on?

1) 2) 3)

SECTION E: FOOD SECURITY

17. a) Do you harvest enough food for the household?

1. Yes [] 2. No []

b) Does the food last till the next harvest? (If no, go to 17c)

1. Yes [] 2. No []

c) If the food does not last to the next season how does the household survive?

Code 1= Donations from PEIs

2= Sale of property

3= Borrowing

4= Others (specify)

d) Has the household experienced any incidences of hunger/ starvation? (If yes, go to 17e)

1. Yes [] 2. No []

e) What do you attribute this to? _____

Code 1= Lack of rains

2= Political interference

3= Lack of farm inputs

4= Cultural factors

5= Others (specify)

f) How did your household overcome hunger?

i)

ii)

SECTION F: HEALTH

18. a) During the last one year, was there an occasion in which you or a member of your household needed medical attention?

1. Yes [] 2. No []

b) If yes, which type of health facility did you take them?

1. Private 2. Public 3. Traditional or Dispensary 4. Missionary Herbal medicine

c) Why this preference? _____

Code 1= Free service

2= Quality service

3= Proximity

4= Others

d) Given an alternative, would you have preferred the same?

1. Yes [] 2. No []

e) If yes, which one and why? _____

f) If no, why? _____

19. a) From your experience would you say that the health facilities are adequate?

1. Yes [] 2. No []

b) If yes, why? _____

c) If no, why? _____

SECTION G: ASSET MAPPING AT HOUSEHOLD LEVEL.

20. a) What assets would you say you have acquired out of farming

ITEM	NUMBER	VALUE IN KSHS
LAND	Acreage	
MACHINERY		
• Vehicle		
• Tractor		
• Plough		
• Water pump		
• Pipes		
• Bicycle		
• Others (specify)		
ANIMALS		
• Cows		
• Goat		
• Sheep		
• Chicken		

<ul style="list-style-type: none"> • Others (specify) <p>HOUSING TYPE</p> <ul style="list-style-type: none"> • Own • Rental <p>ELECTRICAL</p> <ul style="list-style-type: none"> • Television Set • Telephones • Radio • Fridge • Sewing Machine • Cooker • Others(specify) <p>HOUSEHOLD FURNITURE</p> <ul style="list-style-type: none"> • Sofa set • Beds • Dining Table • Chairs • Others(specify) 		
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SECTION H: WATER, SANITATION AND HOUSING

21. What is the main source of water for the household? _____

- 1) Piped water 2) Protected wells 3) River/lake/pond 4) Domestic water Tank
5) Purchasing water from vendor/truck

22. Is the amount of water adequate?

During dry season 1. Yes [] 2. No []

23. Do you have a water tank? 1. Yes [] 2. No []

24. What is the origin of the tank? 1 = Bought 2 = Donated 3=Community Project

25. Approximately, how much time do you spend from your home to the source of water? [____].hours [____] minutes

26. Observe or ask type of house 1. Permanent [] 2. Semi-permanent []

27. Is your house partitioned? 1. Yes [] 2. No []

28. If yes, into how many rooms _____

29. Do any of your animals sleep in the house? 1. Yes [] 2. No []

30. If yes, which ones?

1. Chicken 2. Goats 3. Sheep

31. Observe or ask which type of toilet.

1. Pit latrine 2. Water closet 3. None

32. What is your source of fuel for:

a) Cooking

1. Wood [] 2. Charcoal [] 3. Paraffin []
4. Electricity [] 5. Gas [] 6. Others (Specify) _____

b) Lighting

1. Electricity [] 2. Paraffin [] 3. Others (specify) _____

SECTION I: POVERTY ALLEVIATION INITIATIVES

33. How do you as a household overcome poverty or lack of adequate income to meet basic needs if encountered in the past?

- i)
- ii)
- iii)

34. a). Do you know of any poverty alleviation initiatives in the community?

1. Yes [] 2. No []

b) If yes, which ones?

Coded 1 = Government initiatives

2 = Local NGO

3 = Faith based organization

4 = International NGOs

5 = Farmers Initiative

c) How would you say, are the farmers benefiting from these Poverty Alleviation Initiatives?

1) 2) 3) 4)

d) Are you farmers involved in the planning, implementation, monitoring and evaluation of these Poverty Alleviation Initiatives?

i) Planning 1. Yes [] 2. No
ii) Implementation 1. Yes [] 2. No
iii) Monitoring 1. Yes [] 2. No
iv) Evaluation 1. Yes [] 2. No

e) Have you as an individual benefited from the Poverty Alleviation Initiatives?
1. Yes [] 2. No []

f) If yes, how?

1) 2) 3) 4)

g) If no, why not?

1) 2) 3) 4)

h) What would you say has not been addressed by these Poverty Alleviation Initiatives?

1) 2) 3) 4)

Appendix 2: Interview Schedule for the PAI's Change Agents

- 1) Name of organization
- 2) What activities are you involved in?
- 3) Why are you involved in the community?
- 4) What are the types of programmes or projects implemented or being implemented?
- 5) In what activities are you collaborating with other development agencies?
- 6) What have been the impacts of programmes or projects to the target groups (small-scale farmers)?
- 7) What are the constraints faced in the planning, implementation, monitoring and evaluation of these programmes and projects?
- 8) What are your future plans?

Appendix 3: Focus Group Discussion Guide for Self Help Groups.

- 1) What can you say are the major problems facing the community?
- 2) How are these problems being addressed at community level?
- 3) What assets are there to address these problems at the house hold level?
- 4) What assets are there at the community level to address their problem?
- 5) Has the community utilized poverty alleviation initiatives by government?
 - (1) Community Development Fund
 - (2) Free Primary Education
 - (3) Youth and Women Development Funds
 - (4) Local Authority Transfer Fund
 - (5) Others (specify)
- 6) What are the contributions of the change agents in this community?
 - (1) Agricultural extension officers
 - (2) Micro- Finance Institutions
 - (3) Community Based Organizations
 - (4) Faith Based Organizations
 - (5) Youth leaders
 - (6) Women leaders

Appendix 4: Zonal Areas in the Location of Study

Findings from the Preliminary Study

The researcher grouped the wards in the area of study into High, Medium and Low Zones.

HIGH ZONE

This zone was characterized by farmers who used water from Lake Naivasha for irrigation thus engaged in smallholder participation in export floriculture and horticulture. The high potential of the area had attracted economic interests from potential financial providers like Equity Bank, Faulu Kenya; K rep. This was in addition to development agencies such as Kenya National Federation of Agricultural Producers (KENFAP) and Africa Now. There was ready market as a result of surrounding high population. The wards that were categorized in the High zone were: Lakeview Ward, Viwandani Ward and Biashara Ward. Among the three wards, Lake View Ward represented this Zone, as it was the only ward directly involved in agriculture.

MEDIUM ZONE

The Wards that were categorized in the Medium Zone were Mwachiringiri and Maraigichu wards. Maraigichu ward was picked to represent the Medium Zone, because of its proximity to the other areas of study (Karati & Lake View Ward) as compared to Mwachiringiri Ward. This was dictated by time and financial constraints. Maraigichu was the area bordering Naivasha and Nyandarua districts. Although the area did not receive as high rainfall as Nyandarua District in general, it nevertheless received relatively higher rainfall than other areas in Naivasha District. Due to its

proximity to the Aberdare ranges, the area experienced lower temperatures unlike Longonot, Mai Mahiu and Gilgil in the Low zone. The nature of soil allowed for growth of food crops such as kales, spinach green peas, carrots and onions. Climatic conditions also favored dairy farming which was the key occupation for a majority of farmers.

LOW ZONE

The wards that categorized this zone were Hells Gate, Olkaria, Malewa West, Malewa East and Karati Wards. Where agricultural activities in the named wards are predominantly large scale, Karati Ward was distinct in that it constituted small scale farmers and it has only attracted a single large scale farmer who hired land from an absent white land owner. The ward was characterized by low rainfall and high temperature. This made it difficult for small scale farmers to adequately produce food crops leave alone for crops for sale. Farmers engaged in maize, beans, potato farming and dairy farming. This zone provided a big bulk of casual laborers in the horticulture and flower farms.

Appendix 5: Distribution of Self Help Groups by Zones.

Zones	Number of Self Help Groups
HIGH ZONE	
1.Lake View Ward	82
2.Viwandani Ward	27
3.Biashara Ward	39
MEDIUM ZONE	
1.Maraigichu Ward	20
2. Mwiciringi Ward	15
LOW ZONE	
1.Karati Ward	13
2.Malewa East Ward	3
3.Malewa West Ward	1
4.Olkarai Ward	2
5.Hells Gate Ward	3
TOTAL	205

Appendix 6: **Distribution of Development Agencies by Zones**

Zones	Development Agencies		
	CBO's	FBO's	NGO's
HIGH ZONE			
1. Lake View Ward	5	6	10
2. Viwandani Ward	1	2	
3. Biashara Ward	2	1	
SUB-TOTAL	8	9	10
MEDIUM ZONE			
1. Maraigichu Ward	2		1
2. Mwiciringi Ward	1		1
SUB-TOTAL	3		2
LOW ZONE			
1. Karati Ward	3	1	2
2. Malewa East Ward	1		
3. Malewa West Ward			
4. Olkaria Ward			
5. Hells Gate			2
SUB-TOTAL	4	1	4
TOTAL	15	10	16

From the preliminary study, a list of names of the registered Development Agencies was acquired from the Naivasha Municipal Social Service Offices. The researcher grouped these Community Based Organizations (CBO'S), Faith Based Organizations (FBO's) and Non Governmental Organizations (NGO's) as they were distributed in the administrative wards.

Appendix 7: List of Registered Development Agencies**COMMUNITY BASED ORGANISATIONS**

1. *NAWACOMP (Naivasha Watershed Conservation and Management Project)
2. Jogima Development Group
3. Peace Promotion
4. Amazing Community Based Organization
5. Emmanuel Kinungi Community Based Organization
6. Naivasha Partners for Changes
7. Cactus Community Based Organization
8. Rise and Go Community Based Organization
9. Baraka YMCA Community Based Organization
10. Blesses Mothers Community Based Organization
11. Kihoto Baharini Community Based Organization
12. Jenga Kumi Community Based Organization
13. Jitahidi Youth Community Based Organization
14. Mugaa Conservation Community Based Organization

*Sampled Development Agency

FAITH BASED ORGANISATIONS

1. Unity Vision
2. Miracle Women Faith Based Organization
3. Blessed Twenty Five Faith Based Organization
4. River Jordan Development Group
5. Ebenezer Faith Based Organization
6. Sanctuary Ushindi Women Group
7. Revelation Women Group
8. By Grace of God Women Group
9. Muungano Horticultural Group
10. Bethlehem Development Youth Group

NON-GOVERNMENTAL ORGANISATION

1. *Africa Now
2. *KNOTE (Kenya National Outreach Counseling and Training Programme)
3. *KENFAP(The Kenya National Federation of Agricultural Producers)
4. Live Blum Agricultural Initiative
5. HABITAT for humanity
6. SMEP(Small and Micro-enterprise Programme)
7. WEMA(Women Enterprise Development Agency)
8. Jamii Bora Kenya
9. Family Health International
10. Lake View Development Initiative
11. Dream Team Development Agency
12. Friends of the Lake Naivasha Organization
13. World Vision International
14. Red Cross Kenya
15. Farmers Capacity Developers
16. UNICEF

***Sampled Development Agency**

GOVERNMENT INITIATIVES

1. *HCDA (Horticultural Crops Development Authority)
2. *KEPHIS (Kenya Plant Health Inspectorate Service)

***Sampled Development Agency**

Appendix 8: Map of Naivasha Ward Boundaries

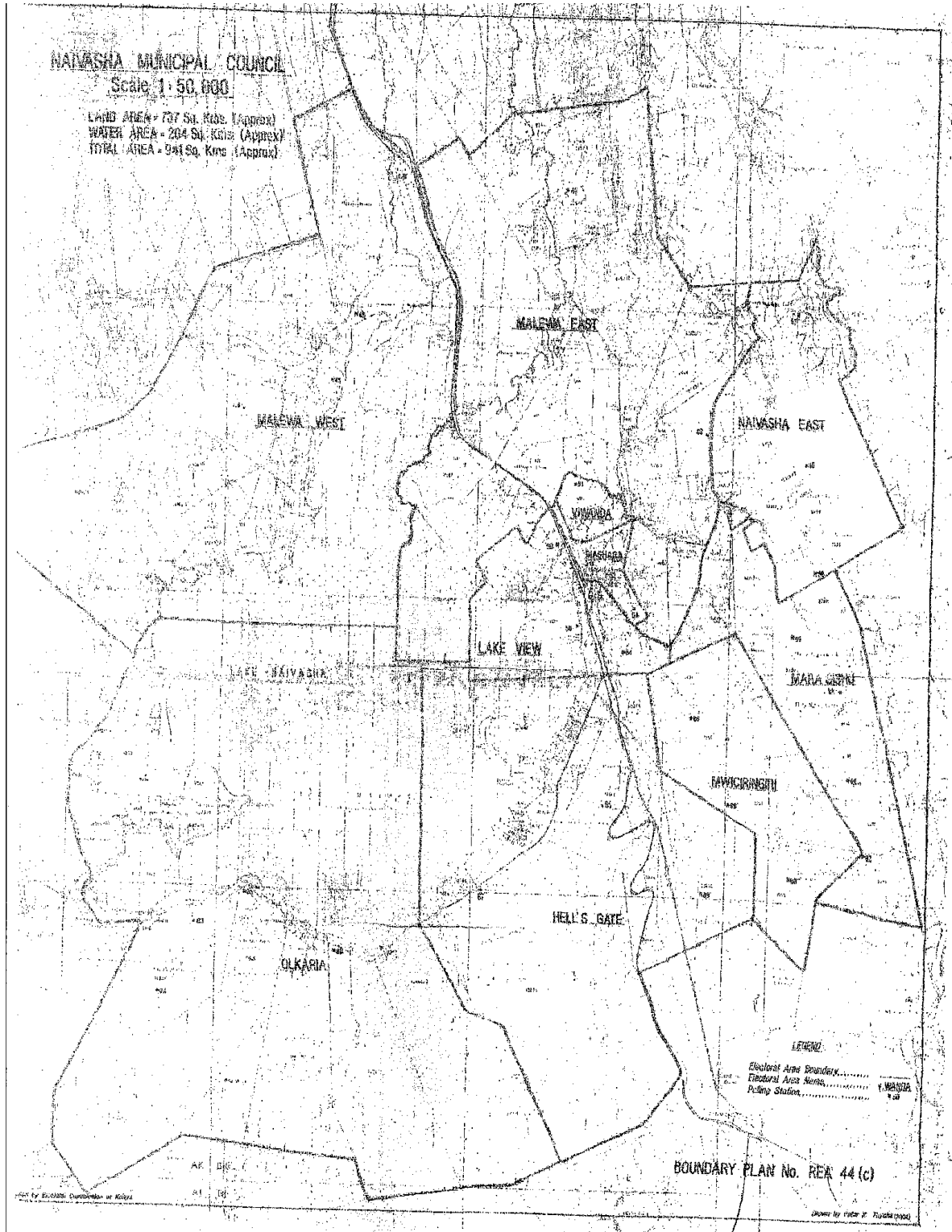


Figure 5: Map of Naivasha Ward Boundaries