DETERMINANTS OF POVERTY IN HOMABAY DISTRICT

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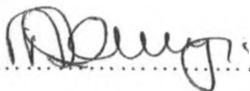
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DECLARATION

This research paper is my original work and has not been presented for a degree award in any other University.

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APPROVAL

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DEDICATION

I dedicated this research to my family especially to my late parents Mr. and Mrs. Kijana who inspired and encouraged me to take up the challenge, my husband Jacob, daughter Winnie and sons Johnkings and Joe who were always at hand whenever I needed their assistance.

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ABBREVIATIONS AND ACRONYMS

CBN	Cost of Basic Needs
CDF	Constituency Development Fund
ERS	Economic Recovery Strategy
FAO	Food and Agriculture Organization
FEI	Food Energy Intake
FGT	Foster, Greer and Thorbecke
GDP	Gross Domestic Product
GoK	Government of Kenya
HELB	Higher Education Loans Board
HDI	Human Development Index
IRS	Integrated Rural Survey
KIHBS	Kenya Integrated Household Budget Survey
KNBS	Kenya National Bureau of Statistics
KPLC	Kenya Power and Light Company
MDG	Millennium Development Goals
NARC	National Alliance of Rainbow Coalition
NGO	Non-Governmental Organizations
NPEP	National Poverty Eradication Plan
NRPL	National Rural Poverty Line
PRSP	Poverty Reduction Strategy Paper
UNDP	United Nations Development Programme
WB	World Bank
WHO	World Health Organization
WMS	Welfare Monitoring Survey

ABSTRACT

Poverty estimates in Kenya reveal that poverty has been on the increase over time. This is despite efforts to eradicate the vice. Different areas differ markedly in resource endowment, geographical climatic conditions and in institutional arrangements. Therefore, alleviating poverty require an understanding of determinants of poverty in each specific area. The main objective of this study was to analyze the determinants of poverty in HomaBay district and suggests policies for reducing poverty. A logit regression model was used. Data from Kenya Integrated Household Budget Survey (KIHBS) 2005/6 conducted by Kenya National Bureau of Statistics (KNBS) was used. A total of 164 households: 110 rural and 54 urban were studied. The study used the national rural poverty line to determine the proportion of poor households in the district. The study found that 56% of the sample lives below poverty line.

The result show that household size, age of the household head, male headed household, disability of the household head, rural location and engagement in agricultural activities increase probability of a household being poor. Contrary, the estimated marginal effects shows that ownership of parcel of land and livestock, household head being married, access to piped water for drinking, household head post primary education level and his ability to read and write reduces the probability of household being poor. Several poverty eradication measures were recommended: provision of public goods such as good roads, electricity supply and piped water; boosting education level in HomaBay district; provision of free or affordable health care services, including family planning services to the poor and introduction of special life sustenance programs/mechanisms targeted to the physically disabled person. Others include improved land management and access to farmland.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

1.1.1 Poverty in Kenya

Poverty is a multidimensional problem that goes beyond economics to include, among other things, social, political, and cultural issues. Poverty manifests itself in various forms. Solutions to poverty cannot be based exclusively on economic policies, but require a comprehensive set of coordinated measures which lies at the heart of the rationale underlying comprehensive poverty reduction strategies.

Poverty estimates reveal that poverty has been on the increase over time and food poverty has increased more than absolute poverty. For instance in 1972, the number of Kenyans defined as poor was 3.7 million, increasing to 11.5million in 1994 and further to 13.3 in 1997, Republic of Kenya (2005a). In general terms, poverty is defined as the inability to attain a certain predetermined minimum level of consumption at which basic needs of a society are assumed to be satisfied. In Kenya, about 56 percent of the population is poor; implying at least one in every two people is poor (Republic of Kenya, 2003a). About three quarters of the poor live in rural areas while the majority of the urban poor live in slum and *peri*-urban settlements.

According to the Welfare Monitoring Survey (WMS) of 1997 estimates shows that the overall incidence of poverty in Kenya stood at 52.3%; 52.93% for the rural areas and 49.2% for the urban areas up from 46 per cent for rural and 29.3 per cent for urban estimates in 1992. Using 1994 and 1997 welfare monitoring surveys, Mwabu et al., (2002) estimated income poverty in Kenya for 2000 was 57%. Kilele, A. and Ndeng'e, G. (2003) did poverty mapping in Kenya. They found that 60% of the rural poor are found in 35% of the 422 Divisions and in 31% of the 2,070 Locations included in this analysis. They estimated that National poverty prevalence was at 45%. Mwabu, G, Mwangi, W. and Nyangito, H. (2006) stated that over 60% of the Kenyan population is estimated to be

below the poverty line, with the majority of the poor residing in rural areas, where agriculture is the main source of livelihood. Lack of progress in poverty reduction is partly due to inadequate implementation of previous anti-poverty measures and partly because the measures paid insufficient attention to the development of agriculture, the backbone of the Kenyan economy.

Poverty incidences vary across regions. More than 50 percent of the population in all provinces in Kenya, except Central province, is poor (Republic of Kenya, 2003a). Even though North Eastern province has the highest proportion of people living in poverty (68 percent), it contributes only 3 percent to the national rural poverty. Nyanza and Rift Valley provinces have the highest contribution to the national rural poor (23% respectively). While the results of poverty mapping work indicate similar patterns in levels of poverty at the provincial levels, at sub-district levels they depict large differentials (Republic of Kenya, 2003b). For instance, rural poverty incidences within Central province (least poor province) range from 10 per cent to 56 percent across its 171 locations. As well, poverty mapping at the parliamentary constituency level also portrays similar patterns with some constituencies in regions considered non-poor from a national perspective emerging critically poor (Republic of Kenya, 2005). UNDP (2005) projects that the number of people living in poverty could increase to 65.9% by 2015 if the current trend continues and unless the economy grows at a rate of about 7%, which is needed to support implementation of MDG-related activities within the remaining decade to 2015.

Non-income indicators of poverty have also worsened. The education sector has been characterized by declining enrolment rates, high dropouts, grade repetition, low completion and poor transition rates (Republic of Kenya, 2001). According to the United Nations Development Programme Human Development Index (HDI), life expectancy declined from 58 years in 1986 to 48 years in 2004, partly due to the HIV/AIDS pandemic. According to the Joint United Nations Programme on HIV/AIDS (UNAIDS); the overall adult infection rate was 7 percent in 2003 with some 1.2 million Kenyans living with the virus while girls and young women being more likely to be infected than men. About 100,000 children were infected and some 650,000 children had been

orphaned as a result of the disease. Infant and child mortality rates have also worsened. Gender disparities have persisted with women having on average, lower educational attainment, less access to health services, and a heavier workload than men. Trends in nutritional status of children under the age of three show that the percent of stunted children (short for their age) increased from 29 percent in 1993 to 31 percent in 2003 (Republic of Kenya, 2003b). The percent of children aged 12-23 months who were fully vaccinated dropped from 79 percent in 1993 to 52 percent in 2003.

1.1.2 Poverty in HomaBay District

Poverty is unevenly distributed in the country across districts. Compared to other district in Nyanza, HomaBay district is identified as poorest (Republic of Kenya, 2005e). According to the Republic of Kenya (1997), 309,000 people were classified as absolute poor in the district. The distribution of the poor in the district varies from one constituency to another. Statistics estimated from the 1997 welfare monitoring survey and population housing census estimates released by the government show that Asego and Rangwe divisions has 95,196 poor persons, while Nyarongi has 68,711 poor persons, Riana has 46,242, Ndhiwa has 78,733 poor persons (Republic of Kenya, 2005e).

Using social indicators as measure of poverty levels, HomaBay has higher incidences of poverty compared to other districts in Nyanza province. This is illustrated in the table 1.1 below. The table reports that HomaBay district has the lowest literacy level in Nyanza province. The district has lowest population that can access public school, clean/safe water and healthy facilities.

Table 1.1: Comparative Analysis of Poverty Situation among Nyanza Province Districts Using Non-income Indicators (%)

Indicator	Kisii	Kisumu	Siaya	Homabay	Migori	Nyamira
Literacy level	87.8	91.1	78.2	78.1	87.9	86.7
Access to nearest health facility (Less < 1KM)	26.6	-	-	1.8	06.8	12.6
Livestock ownership	60.0	40.0	56.5	57.1	64.7	65.2
Access to safe water	31.5	42.7	29.7	18.8	25.5	39
Immunization coverage	67.2	96.2	83.4	60.8	62.8	61.6
Access to nearest public School (Less < 1KM)	53	6.5	12.6	8.3	16.2	52.5

Source: KIHBS 2005/06

Kenya Integrated Household Budget Survey (KIHBS) 2005/06 reported that 41.4% of households in the district had fallen sick four weeks prior to the survey, and 62.6% didn't seek medical attention. According to the survey the main income generating activity is wholesale and retail trade. Further, the survey reported that 51.7% of household type of main toilet facility was either uncovered pit latrine or bucket and 48.7% used flush toilet, VIP toilet or covered pit latrine. Using roofing material of main dwelling house, 26.3% of household used grass, makuti or tin while 73.7% used corrugated iron sheet, tiles, concrete or asbestos.

Over 62 percent of the population in HomaBay district lives below the poverty line (Republic of Kenya, 2004). A number of reasons have been cited for the poverty prevailing in the district among them being, poor access to productive resources. Others include land subdivision and pressure,low entrepreneurial skills, lack of credit, retrogressive culture and unemployment being some of the primary causes of poverty identified during the poverty consultations held in the district in the year 2000 (Republic of Kenya, 2001). Consequently, this study aims at empirically uncovering the main determinants of poverty in the district.

1.1.3 Policy Responses to Poverty Menace

Reduction of poverty has been a major concern of the Kenyan Government since independence. However, little has been achieved to alleviate it, despite the government efforts to combat it. This suggests that the adopted policies may not have been effective or adequate in addressing the problem. Its persistence and spread is now recognized as a major threat to a significant section of the Kenyan society, with worrying consequences for security and economic wellbeing of those affected (World Bank, 2005).

In 1960s Government was pursuing anti-poverty measures that were not effectively focused on promotion of the welfare of the population (Hill, P. 1982). To eradicate poverty Government pursued growth promotion policies and initiatives. The other measures especially in 1960s and 1970s included strengthening the role and participation of the state in the economy e.g., setting of minimum wages, general price controls, subsidizing education and agriculture inputs, guaranteeing public sector employment and population controls. Wage and price controls and excessive participation of the government in the economy not only increased inefficiency but also acted as a disincentive to both domestic and foreign investment (Kabubo-Mariara et al., 2009).

The policies and initiatives were spelt in several government five-year development plans and sessional papers, and poverty reduction strategy papers (PRSP). Other policies initiatives by the government in 1960s were i) land resettlement schemes where thousands of landless people and squatters displaced by the colonial settlers were provided with small scale holdings in 1968. However lack of land or inadequate agricultural land was identified as some of the constraints to the extent of using settlement schemes and land redistribution (Ravallion and Chen, 1997), ii) the basic needs and rural development which focused on provision of basic services such as food, water, shelter and health care for the poor. Provision of such basic needs depends mainly on public budget which is based on national economic growth, the basic needs approach did not overcome poverty problem.

In 1980s the Government shifted its focus from central national levels to local levels, and designed local programmes that would fight poverty. Such programmes are district focus for rural development: This was launched in 1983 with the main objective of allocating resources in a more geographically equitable basis. More funds were to be allocated to the less developed regions to be spent in projects prioritized by the local communities. However this failed due to poor preparation, unfamiliarity of district staff with methods of participatory planning and weak commitment of sector staff to inter sectoral initiatives (GOK, 1999).

Also, from mid-1980 the growth of the informal sector began to receive greater attention. It was seen as one with high potential to alleviate poverty through creation of employment opportunities to both rural and urban areas (Mwabu et al., 2000). However, the government never created a truly conducive and supportive environment for the informal sector. The sector continued to be dogged by official harassment and to be constrained by lack of credit, appropriate premises and lack of proper marketing strategies.

In 1990s the government in collaboration with development partners- World Bank and IMF, adopted structural adjustment programs. Structural adjustment policies had both direct and indirect effects on social welfare. The direct effects work through changes in the level of incomes and its distribution, while the indirect effects work through the provision of public service. It is worth noting that while SAPs have sorted some areas of the inefficiencies in Kenya, it is generally obvious that they had serious drawbacks. Most important is their failure to create the necessary conditions for the economy to absorb the increasing number of unemployed labour force or raise the purchasing power of those employed in the formal and informal sectors.

To eradicate poverty, in 1998 government adopted a consultative process, involving the local people in the design of poverty reduction strategies, namely Poverty reduction strategy papers (PRSP). Kenyan PRSP was linked to the long term vision as outlined in the National Poverty Eradication Plan (NPEP) which was a fifteen year plan of fighting

poverty adapted by the international development goals. The PRSP process was intended to allow broad participation of all stakeholders in the PRSP preparation, and focus on the collective attention on agreed poverty reduction strategies.

When NARC government ascended to power in 2002, they initiated an economic recovery strategy for wealth and employment creation. The strategy identified key measures and program which if implemented fully, the country could achieve desired rapid economic growth, wealth, and employment creation and poverty eradication. The strategy aimed at giving Kenyans better deal in their lives and their struggle to build modern and prosperous nation. The Economic Recovery Strategy for Wealth and Employment Creation (ERS) targeted the core objectives of Millennium Development Goals (MDGs) halving poverty by 2015. Under the guidance of the Economic Recovery Strategy for Wealth and Employment Creation (ERS), the Kenyan economy recovered and resumed the path to rapid growth. The entry of the new Government coincided with expiry of ERS on December 2008 and Kenyans developed a long-term vision- the VISION 2030: the new development blueprint for the country, motivated by collective aspiration for a much better society than experienced today, by the year 2030 to guide development in the next 25 years (GOK-Ministry of Planning and National Development, 2008). Some of the poverty initiatives adopted by the Government since 2002 include provision of free primary and secondary education, bursary fund and health care fund- Global fund and decentralisation of resources from central government to local levels such as CDF. Unlike other development funds that have to permeate the central government larger administrative bureaucracies, funds under CDF go directly to local levels (constituencies) and thus provide people at the grassroots the opportunity to make expenditure decisions that maximize their welfare consistent with the theoretical predictions of decentralization theory (Kimenyi, 2005).

1.2 Problem Statement

Poverty has remained a major problem in Kenya since independence. Using predictions based on the GDP, Gini coefficients and poverty estimates for 1997 WMS. It is estimated that 57% of Kenyans are poor and most of poverty reduction efforts in Kenya have not been successful in alleviating the problem.

Many poverty studies such as Gedi et al. 2001; Oyugi, 2000, Mwabu, et al. 2002; Mwabu, et al. 2004 are analytical work on determinants of poverty based on changes in mean income and consumption expenditure derived from household surveys. Most of these studies have viewed determinants of poverty as indices of level of poverty as opposed to causes in the variation of poverty. Different areas differ markedly in resources endowment, geographical climatic conditions and in institutional arrangements. Perhaps these differences accounts for observed differences in poverty rates in these areas. These differences influence poverty through their effects on production, consumption, investment and household welfare.

Alleviating the poverty problem requires an understanding of determinants of poverty in each specific area. Recent studies on poverty (Muyanga et al. 2007 and Kabubo-Mariara et al. 2009) focused on the whole country. Kabubo-Mariara et al. (2009) employed both descriptive and econometric methods to investigate the impact of institutional factors on poverty in Kenya. Muyanga et al. 2007 analyzed rural household poverty dynamics by decomposing aggregate household poverty into its chronic and transient components in Kenya, using the spells approach. However, the study did not focus on a specific area, raising the question whether the result would apply to different areas given their diversity in resources endowment. Since poverty is a spatial phenomenon there is need to carry regional specific or area specific poverty studies.

These earlier poverty survey estimates assumed and treated district administrative areas as homogeneous. But generally, Districts in a province are not necessarily homogeneous and similarly within districts and divisions could be very much different. Such

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aggregated level poverty estimates conceal significant variations in poverty at the lower administrative levels. This study aims at bridging the gap existing on the aforementioned studies by using econometric methods to estimate determinants of poverty in one of Kenya's district: HomaBay. Despite existence of several institutions (such as schools and markets among others) and resources endowment (such as arable land, water catchment, conducive weather for agriculture, both skilled and unskilled labour) in HomaBay, the district has been identified as among the poorest in Nyanza province.

1.3 Objectives of the study

The main objective of this study was to investigate the determinants of poverty in HomaBay district. Specifically, the study,

  i.   Analyzed the determinants of poverty in the HomaBay district, and
  ii. Suggested policies for reducing poverty in the district.

1.4 Justification of the Study

The persistence of poverty throughout Kenya's history, despite the government's efforts to combat it, suggests that the national and international adopted policies may not have been effective and adequate in addressing the problem and perhaps the real causes of poverty have not been understood. This necessitates a fresh re-look at the causes of poverty and change of policy measures that have been used in the past to combat it, and proper implementation mechanisms on poverty put in place. Thus by investigating the determinants of poverty at the district level, the study is useful to the government as results can be used to develop interventions to mitigate the impact of poverty at the local level. This is crucial as national and international policies formulated before have not done enough to eradicate the problem.

Investigating factors impeding the fight against poverty provides useful information to the non-governmental organizations (NGOs), the donors and other partners involved in the poverty reduction programs in the district. In addition, the study contributes to the growing literature on poverty in Kenya.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the relevant literature on poverty. First, conceptualization of poverty is given before empirical review of the literature. Lastly an overview of literature is given focusing on the gap to be filled by this study.

2.2 Conceptualization of poverty

Conceptualization of poverty has a long history. Broadly, poverty can be conceptualized in four ways; these are lack of access to basic needs/goods; a result of lack of or impaired access to productive resources; outcome of inefficient use of common resources; and result of "exclusive mechanisms" (Madzingira, 1997).

Poverty as lack of access to basic needs/goods is essentially economic or consumption oriented. It explains poverty in material terms and specifically employs consumption-based categories to explain the extent and depth of poverty, and establish who is and who is not poor. Thus, the poor are conceived as those individuals or households in a particular society, incapable of purchasing a specified basket of basic goods and services. Basic goods are nutrition, shelter/housing and water necessary for survival. Others are healthcare, access to productive resources including education, working skills and tools, political and civil rights to participate in decisions concerning socio-economic conditions (Madzingira, 1997).

Impaired access to productive resources (agricultural land, physical capital and financial assets) leads to absolute low income, unemployment, undernourishment etc. Inadequate endowment of human capital is also a major cause of poverty. Generally, impaired access to resources shifts the focus on poverty and it curtails the capability of individual to convert available productive resources to a higher quality of life (Sen, 1977 and Adeyeye, 1987).

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Poverty can also be the outcome of inefficient use of common resources. This may result from weak policy environment, inadequate infrastructure, weak access to technology, credit facilities etc. Also, it can be due to certain groups using certain mechanisms in the system to exclude "problem groups" from participating in economic development, including the democratic process. In Sub-Sahara Africa (SSA), the agricultural sector was exploited through direct and indirect taxation throughout the colonial and post-colonial decades leading to poor growth performance of the sector, heightened rural-urban migration and employment crisis. In urban SSA, Grootaert, C. (1994) suggests three paradigms of exclusion: the individual's specialization that cannot be accommodated in the factor market (specialization paradigms); the various interest groups that establish control over the input of available resources, for example, on goods and labour markets and simultaneously foster solidarity within the respective interest groups (monopoly paradigms); and the individual which has a troubled relationship with the community (solidarity paradigm).

Literature on the determinants of poverty is fairly well established and commonly modeled following two main approaches of measuring poverty: (a) per capita or adult equivalent consumption expenditure (b) the Foster- Greer Thorbecke poverty indices, which are discrete functions of the household's consumption level vis-à-vis poverty line. The fact that Poverty is multidimensional and complex in nature; manifests itself in various forms and is perceived differently by different people. No single definition can exhaustively capture all aspects of poverty, and different definitions reflect different contexts of poverty. World Bank (2000) admits that we have misconceptions about the poor, why they are poor and what is needed to help them out of this vicious cycle. World Bank (2005) retains the various definitions of poverty in three main categories including income-based, basic needs approach and participatory definitions. Poverty may also be defined in absolute or relative terms (GoK, 1998). The Poverty Reduction Strategy Paper (PRSP) recognizes that poverty is multi-dimensional and defines it-to include inadequacy of income and deprivation of basic needs and rights, and lack of access to productive assets as well as to social infrastructure and markets. To alleviate poverty; incomes,

levels of investment, labour productivity, access to market and provision of education and health must be increased.

2.2 Empirical Literature Review

The poor in Kenya are entwined in a web of interrelationships between the various determinants of poverty. Intrinsic deficiencies in the resource base of the productive forces have become critical drawbacks in alleviating the poverty situation. Lack of equity in accessing productive resources and basic services and their consequential benefits as well as lack of access to opportunities to develop skills and human capabilities have impeded the socio-economic development of the poor. In addition, absences of the means by which the poor can address their problems and enhance their active participation in decision-making have hindered their attempts to move out of the state of deprivation.

Many factors have been advanced as determinants of poverty in literature. At the individual level, poverty is explained by individual circumstances and/or characteristics of poor people. These include amount of education, skill, experience, intelligence, health, age, work orientation, time horizon, culture of poverty, discrimination, together with race, and sex (GOK 1974, 1992, 1997; Oyugi 2000). At national level low agricultural production, low non-farm income, low education and poor health, high population growth and weak institutional structures (such as markets, cooperative societies, rule of law) explains poverty in Kenya (Mwabu et al. 2000, Mwabu et al. 2004, Manda 2006, Kabubo-Mariara et al., 2009).

Worrisome issue in Kenya is the high level of poverty among women. Determinants of feminization of poverty comprise poor women's relatively low entitlements, such as their restricted access to land ownership, credit and other productive resources, limited participation in political and economic institutions, and their limited capabilities resulting from illiteracy and low education levels (Oyugi, 2000; Mwabu et al 2004). Formal credit institutions do not address the needs of the poor because they usually restrict lending to credit worthy persons with the required collateral. Micro financing is however

increasingly considered, as a mode of finance that can help meet the credit needs of the poor (Mwabu, et al. 2004).

Mwabu et al. (2000) estimated poverty measures, profile and looked at determinants of poverty in Kenya. The study employs a household welfare function, approximated by household expenditure per adult equivalent. The argument of using welfare function approach is that consumption expenditures are negatively associated with absolute poverty at all expenditure levels. The authors run two categories of regressions: discrete and continuous choice based regressions, using overall expenditures and food expenditures as dependent variables. The study identified determinants of poverty to include: region-specific factors, mean age, size of household, place of residence (rural versus urban), level of schooling, livestock holding and sanitary conditions. The importance of these variables does not change whether the total expenditure, the expenditure gap or the square of the gap is taken as the dependent variable. The only noticeable change is that the sizes of the estimated coefficients are enormously reduced in the expenditure gap and in the square of the expenditure gap specifications. Moreover, except for minor changes in the relative importance of some of the variables, the pattern of coefficients again fundamentally remains unchanged when the regressions are run with food expenditure as dependent variable.

Gamba et al. (2004) using the first two waves (1997 and 2000) of Tegemeo Agricultural Monitoring and Policy Analysis Project (TAMPA) 1500 households panel data, categorized rural households using the poverty 'spells' approach. Households that were below the poverty line in both 1997 and 2000 were categorized as 'chronic poor'; those which entered into poverty or exited from poverty between 1997 and 2000 were classified as 'transitory poor'; while those that remained above the poverty line in both years were labeled 'non-poor'. Then using a probit model, they attempted to identify determinants of chronic poverty. They established that chronic dominated transitory poverty. The estimation results indicated that the value of assets; head of household age; the number of household members aged over 40; the acreage cultivated; and education level were negatively related to chronic poverty.

Oyugi (2000) used probit model to analyse poverty in Kenya. Both discrete and continuous indicators of poverty were used. Household calorie consumption was used as the dependent variable and a set of household characteristics as explanatory variables derived from the 1994 Welfare Monitoring Survey data. Oyugi's study analyzed poverty both at micro (household) and district level where inclusion of district dummy in the analysis was the innovative component of the study. The explanatory variables (household characteristics) include: holding area, livestock unit, the proportion of household members able to read and write, household size, sector of economic activity (agriculture, manufacturing/industrial sector or wholesale/retail trade), source of water for household use, and off-farm employment. The results of the probit analysis showed that holding area, livestock unit, the proportion of household members able to read and write, household size, sector of economic activity (agriculture, manufacturing/industrial sector or wholesale/retail trade), source of water for household use, and off-farm employment are important determinants of poverty in rural areas but that there are important exceptions for urban areas.

Ali and Thorbecke (2000) provided a detailed analysis on the state and evolution of poverty in Africa using information on income distribution as well as the characteristics of the poor in rural and urban areas. They looked at changes in poverty over time in terms of growth and distribution components. Ali and Thorbecke use an approach that is largely descriptive and they attempt to build an overall picture of poverty in SSA. Their results show a high degree of deprivation in both rural and urban sectors, with 181 million people in rural areas and 59 million people in urban areas living below the poverty line of a dollar per day. Their paper observes that the increase in poverty across Africa has been greatly underestimated by studies using absolute poverty lines to identify the magnitude of poverty over time in SSA. The effects of better income distribution on poverty reduction have also been understated. Using a relative poverty line the paper reports a larger increase in poverty in Africa between 1980 and 1990's than earlier documented.

Gedi et al. (2001) examined determinants of poverty status in Kenya. The study employed both binomial and polychotomous logit models. The motivation was to identify factors that are strongly associated with poverty and that are amenable to modification for poverty reduction policy. The study used household level data collected in 1994. The results indicated that poverty status is strongly associated with the level of education, household size and engagement in agricultural activity, both in rural and urban areas. In general, those factors that are closely associated with overall poverty according to the binomial model are also important in the ordered-logit model, but they appear to be even more important in tackling extreme poverty.

Place et al. (2003) attempted to distinguish the chronic poor from transient poor and to identify correlates of chronic poverty in 120 rural households in western Kenya. The duration between data collection was only two years. Chronic poverty was estimated using four different yardsticks: intake of energy requirements; intake of protein requirements; non-food expenditures per capita; and value of liquid assets. The study established that secondary education was important in reducing chronic poverty. Chronic poor households were likely to be headed by women and were less likely to use fertilizer or animal manure. With the protein measure, the chronic poor were distinguished by their lack of credit access.

Using a community based 'stages of progress' methodology, Kristjanson et al. (2004) and Krishna et al. (2004) examined poverty dynamics in 20 western Kenya villages between 1978 and 2003. The primary assumption in this methodology is that knowledge about changes in the situation of particular households is widely shared among members of close-knit communities. Thus, eliciting information from community members can assist in re-constructing the sequence of events associated with household welfare mobility. In these studies, escape from poverty was associated with diversification of incomes sources through formal employment, livestock farming, small businesses and small family sizes. On the other hand, reasons for descent into poverty included: poor health and health-related expenses; heavy funeral expenses; low levels of education; large family size;

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unproductive land; death of income earner; high dependencies; low paying jobs; and small land holding.

Benin and Mugarura (2006) studied determinants of change in household-level consumption and poverty in Uganda using probit model. Using a household and community panel dataset, the paper analyzes the factors contributing to change in household-level consumption and poverty. On average, per capita real consumption increased by about 49% from 1992/93 to 1999/00 (or 6.5% per annum). The study suggest that adopting policies and strategies that reduce the pressure on agricultural land, creates employment opportunities, and improved access to farmland will be key interventions for raising real per capita consumption and reducing poverty across the country.

Hagos and Stein (2004) analyses determinants of poverty in Northern Ethiopia. Using probit model, the study looks at rural household poverty dynamics employing household surveys on 400 households. In the analysis of the determinants of poverty, human capital resources such as number of members with primary and secondary education, educated households heads, and members with any kind of acquired skills were found to have higher welfare. Increased physical asset endowments, in terms of farm size and livestock holding, are also positively related to improve household welfare. These results suggest the importance of enhancing the poor's human and physical endowments in poverty reduction. On the other hand, household labour endowment seems not to have generally contributed to improvement in welfare perhaps underpinning the poor functioning of labour markets in the region. This calls for policy measures that attack poverty through increased investment for employment creation to tap on the existing idle labour resource. Households' access to services was not found to have a significant effect on welfare perhaps pointing to the limited effect of these programs on poverty reduction in a remote, socially unstable and fragile environment. Finally, regression results also show the adverse effects of village level variables such as political risk (war) and weather factors underlining the importance of peace and political stability and investments in irrigation in poverty reduction. Better access to markets, through investments in marketing

infrastructure may also contribute to poverty reduction, although it may leave poor households vulnerable to external shocks until they are fully integrated into the market.

Bashaasha et al. (2006) used an ordered logistic regression model to empirically establish determinants of wellbeing on the level of household. The model was fitted to data for a sample of 200 households. The dependent variable, poverty category, has three levels namely poorest =1, Less poor =2, and Better off = 3. Fourteen independent variables were used. Results show that households that own 5 acreage of land, that are male headed, have a nonagricultural source of income and are actively involved in agricultural development activities have a higher probability (odds) of enjoying wellbeing above any given poverty level. Land ownership seems to be the most important determinant of wellbeing. Furthermore, owning livestock and having a household head with an education level of secondary school and above are also important determinants of household wellbeing. The findings indicate household wellbeing is negatively affected by household size, age of the household head and illness of any household member.

Mango et al. (2004) used quantitive approach to examine social aspects of dynamic poverty traps in Vihiga, Baringo and Marsabit districts. This involved community level workshops, case studies and interviews with key informants. The results obtained were not significantly different from other earlier studies. Escape from poverty was associated with education, getting a well paying job, diversification in on-farm and off-farm activities, and wider social networks (clan support or farmer groups). Reasons for falling into to poverty included: death of income earner; poor health and health related expenses; lose of employment; reduced land sizes; unproductive land; increased dependencies and frequent natural catastrophes (droughts and floods).

Mwabu, et al. (2004) examined the relationship between rural poverty and rural institutions, taking the globalization feature of the Kenyan economy into consideration. The study employed descriptive statistics, using primary data. They found that rural institutions: land tenure system, laws and regulations, and cultural norms explain extent of poverty in rural areas. The paper noted that the government needs to take into account

rural institutions (e.g.; land tenure system, laws and regulations, and cultural norms) in designing policies for reducing rural poverty. Globalization will affect rural poverty very little if rural areas are not linked to urban centers by a reliable transportation system. Development of a national transportation and communication infrastructure is a precondition for reaping the benefits of globalization.

Oiro (2002) studied poverty and employment in Kenya. The main concern of the paper was to analyze poverty among employed population. Using WMS II data, the study employed both CBN and FEI to estimate poverty line and indentify the poor and then used multivariate regression method to analyze determinants of poverty. The study revealed that female headed household have higher welfare compared to male headed household, similarly urban residents are less poor than rural dwellers, with agriculture sector employees experiences higher poverty incidents. Low education among employees was identified as the main cause of poverty.

Gongi, M. (2005) analyzed poverty situation in Kakamega District using WMS (III) data. This study used FGT poverty measure to estimate the number of poor in the district. The study revealed that more than half of the population of Kakamega District lives in poverty. Further, the study revealed that rural poverty is higher compared to urban poverty.

Kabubo-Mariara et al. (2009) examined the impact of institutional factors on poverty in Kenya using household survey and district level secondary data. To achieve objective of the paper, the authors mapped the district level institutional data onto the household dataset. Both descriptive and econometric methods were employed, focusing on Foster, Greer and Thorbecke measures of poverty. The findings indicate that institutions are important correlates of poverty. In particular, the results show that the per capita endowment of active cooperatives, health centers and ratio of public to private school teachers reduce poverty rates. In addition to these factors, government land and total length of earth roads reduce the likelihood of districts and households falling into poverty. We also find that household characteristics are important correlates of poverty.

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Most notable is education attainment, which exerts a significant and increasing impact on welfare. Family composition and assets are also found to be important determinants of welfare. The study recommends increased participation of the private sector, non-governmental, civil society and community based organizations and other stakeholders in provision of basic social services and also in monitoring and evaluation of existing institutions.

2.3 Overview of the Literature

The literature revealed that there is no one cause or determinant of poverty. On the contrary, a combination of several factors contribute to poverty. The factors identified in the literature to determine poverty include: demography or human capital (including household size, age and gender composition, education, and health); financial and social capital (credit, employment, membership in mutual support organizations); physical capital (ownership of livestock and other productive assets); community factors (access to infrastructure and services, population density, and urban-rural or regional location). The underlying argument is that the above factors affect productivity and incomes, which in turn affect consumption and, therefore, poverty (see Gedi et al. 2001; Oyugi, 2000, Mwabu, et al. 2000 and Manda, 2006). Generalizations on poverty based on national level analysis may not be the most ideal for poverty alleviation policy interventions at district level, given that household and community assets, institutions and infrastructure endowment varies among the districts. Existing unpublished MA (economics) poverty studies (Gongi, 2005 and Oiro, 2002) have used WMS II- 1997 data to analysis determinants of poverty. Since then, the government has initiated a number of antipoverty measures such as free primary education and constituency development fund. It is possible that these measures have brought several socio-economic changes and altered welfare among households at district level. This study uses the Kenya Integrated Household Budget Survey (KIHBS) 2005/06 data to analyze determinants of poverty at the district level rather than at the national level.

CHAPTER THREE: METHODOLOGY

3.1 Model Specification

The literature on the determinants of household poverty was fairly well established, and it showed that various household and community level factors as well as regional and rural-urban differences in the location of households are important determining factors of poverty, suggesting that changes in those factors over time will cause poverty to change.

This study used logit regression models to study determinant of poverty. This technique was chosen because of the discrete dichotomous nature of the outcome variable, the poverty status of the household.

In a logit regression model, the probability, p, that a household is non-poor is given by

$$p = {e^z}/{1 + e^z} \quad\text{...(1)}$$

Borrowing from Benin and Mugarura (2006) and assuming that the probability of being poor or non-poor is determined by an underlying response variable that captures the true economic status of an individual, then central to the use of logit regression is the logit transformation of p given by Z which is specified as below;

$$Z_i = \alpha + \beta X_i + \varepsilon_i \quad\text{...(2)}$$

Where X is a set of independent variables, β is a vector of regression parameters to be estimated and ε is a random error term.

In modeling determinants of poverty, this study assumed that the dependent variable (Z), poverty category, has two levels namely poor =1 and non poor = 0. Z is an indicator of household welfare given as: Y/P. Where P is the poverty line and Y is the consumption expenditure /income

$Y < Z$, if $Z=1$ poor
$Y > Z$, if $Z=0$ Non poor

The study estimated the following model:

$$Z = \alpha + \beta_1 age + \beta_2 hsz + \beta_3 sex + \beta_5 mart + \beta_6 pri + \beta_7 \sec + \beta_8 emp + \beta_9 oca + \beta_{10} lcv$$
$$+ \beta_{11} ldsz + \beta_{12} lsk + \beta_{13} hsk + \beta_{14} phy + \beta_{15} rd + \beta_{16} ldp + \beta_{17} ltt + \beta_{18} inc + \beta_{19} hhe + \beta_{20} ppwt +$$
$$+ \beta_{21} thr + \beta_{22} tqu + \beta_{23} wct + \beta_{24} lct + \beta_{25} twk + \varepsilon \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(3)$$

3.2 Definition of the Variables

Independent Variables, their operational measure and variables symbol are presented in table 3.1 below.

Table 3.1: Definition of the Variables

variable	Operational measure	Variable symbol	Expected Sign
Age of Household	= 1 if hh age is 19-65 years =0 if otherwise	age	-
Household size	Numbers of household members	hsz	+
Sex	= 1 if male, 0 otherwise	sex	-
Marital Status	1= married, 0 if other wise	mart	-
Highest level of education attained	=1 if no education and 0 if otherwise	pri	+
(two categories are used: Primary education and Post primary education)	=1 if Primary and 0 if Otherwise.	sec	+
	=1 if Post secondary and University degree and 0 Otherwise		
Employment Sector	=1 if for Private/public and 0 otherwise	emp	-
Main occupation of member	=1 if in Agriculture, 0 if otherwise	oca	+
Household Location	Rural =1, urban = 0	lcv	+
Total holding of land	Size in acres (large)	ldsz	-
Livestock owned	Number of cows	lsk	-
Number of members sick more than 4 month prior to survey	Numbers of members	hsk	+
Physically disabled	= 1 if yes and 0 otherwise	phy	+
Member can read and write	= 1 if yes and 0 otherwise	rd	-

variable	Operational measure	Variable symbol	Expected Sign
Land Ownership	=1 if yes, 0 if Otherwise	ldp	-
Household whose land has title deed	=1 if yes, 0 if Otherwise	ltt	-
Total income	Income earned in Kshs per month	hhe	-
Main source of water for drinking being piped	=1 if yes, 0 if Otherwise	ppwt	-
Time taken to get water for drinking (hrs)	Time in minutes	thr	+
Time taken to qeue to get water (hrs)	Time in minute	tqu	+
Total cost of water for drinking (Kshs per 20 litre Jeri can)	Cost in Kshs	wct	+
Cost of lighting (Kshs)	Cost in Kshs	lct	+
Minutes taken to travel to work (hrs)	Time in minutes	twk	+

3.3 Description of Variables and Operational Measures

Dependent Variable

Definition of poor

The dependent variable, poverty category (Z) can assume two values namely poor =1 and non poor = 0. Z is an indicator of household welfare given as: Y/P. Where P is the poverty line and Y is the consumption expenditure/income.

Explanatory Variables

Household size: Given the common finding that larger households tend to be poorer (e g. Deaton and Paxson, 1998), it is expected that larger households are likely to be poor. Larger households tend to have more dependents (young and aged), who are associated with lower productivity and incomes (Nkonya et al. 2005). Thus, we expect an increase in dependency to be also associated with an increase in poverty.

Gender of Household head: The impact of gender on poverty is indirect through the effects of differential access to extension, credit, education and productive inputs and participation in labor markets, as females are typically discriminated against (Quisumbing et al. 1998), leading to lower agricultural productivity and agricultural incomes. Thus, we would expect for example an increase in the composition of females within the household, cetris paribus, to be associated with an increase in poverty.

Household level of education: A higher level of education is expected to reduce poverty. The derived evidence on this relationship is very substantial, and shown by the positive impact of education on agricultural productivity (Nkonya et al 2005) and earnings and incomes (Zhang 2004). In general, an increase in education is expected to increase the stock of human capital, and in turn labor productivity and wages, and hence reduction in poverty. In this study attainment of primary education and ability to read and write by household head is expected to reduce probability of being poor.

Age of household head: Young age and elderly reduces productivity and ability to participate in labor markets, increase in health problems and other debilitating illnesses (e.g. malaria) is expected to increase poverty (Zhang 2004). Chances of households with high number of either too young or too aged members to be poor are very high. Both increases dependency which is positively related to chronic poverty (Kristjanson et al., 2004).

Household income: Level of household income determines the poverty levels. Household heads with low income cannot afford basic necessity for their households. Due to low income they cannot effectively cushion their households from seasonal welfare disturbances. It's expected that increase in household income would reduce probability of being poor.

Household Occupation:

Majority of household are employed in agriculture sectors earning low incomes than those working in non agriculture sectors (Oiro, 2002). Therefore, house heads working in agriculture sector earn low income to effectively cushion their households from seasonal welfare disturbances. Operational measurements of the household occupation proportion of household head employed in the agricultural sector vis-à-vis the non agricultural sector.

Location of Household: Also, it is well known that poverty is higher in rural areas than in urban areas. However, such spatial information capture important factors related to policy, programs, infrastructure and institutions (Kabubo-Mariara et al. 2009).   Often, these factors (mostly of public good nature) are biased against rural areas compared to urban areas or they are better developed in some regions than others (Mwabu et al. 2004). In this study we expected that increase in rural households to raise poverty prevalence.

Resource endowment: Increase in physical capital (productive assets such as farmland, infrastructure livestock) is expected to contribute to an increase in consumption and poverty reduction through an increase in agricultural productivity and incomes. The link between households and access to resource·endowment will be measured through land ownership, land size and Number of Livestock owned by household.   Access and productivity of land are closely related to poverty (Kabubo-Mariara et al. 2009). However, Government land ownership has a negative and significant impact on poverty rates (Mwabu et al. 2004 and Mwabu et al. 2000). There we expect private land ownership and increase in land size (measured acreage) to reduce poverty levels. Livestock population, an indicator of financial capital assets, is included in the model. It is expected that an increase in the number of livestock owned by household has a negative sign, implying that in general, households with lower livestock population have higher poverty rates.

Access to social services (i.e., availability of healthcare, education and clean water) is welfare improving (Kabubo-Mariara et al, 2009). This will be measured by distance to

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health facilities, public primary school, and presence of piped water. The closer these services are to the household the greater the increase in their welfare. This is true as amount of time and energy consumed by household members while locating these services increases, household productivity, incomes and consumptions decreases (Zhang 2004). Also, the number of household member ill for more than four months prior to survey period was included to capture household health (Zhang 2004). An increase in health problems and other debilitating illnesses (e.g. malaria) which reduces productivity and ability to participate in labour markets is expected to increase poverty (Zhang 2004).

Infrastructure: Better transport and communication network are expected to favor production of high-value products and nonfarm activities that will contribute to higher incomes or lower poverty (Krishna A., Kristjanson P., Radeny M., Nindo W. 2004). Operationalise measures for infrastructure in this study is distance it takes to access place of work. It is expected that the longer travel times to tarmac and/or murram roads, bus stop and post office will significantly increase poverty levels. The standard explanation here is that the greater the travel time to a good road, the more difficult it is to access markets thus limiting livelihood options. Conversely, communities that have greater access to markets, good infrastructure and public administration face lower transaction costs and more livelihood options, leading. to lower poverty levels. This study uses minutes taken to travel to work and cost of lighting as measures of infrastructure.

3.4 Area of Study

The study area is Homa Bay district. The district is located in South West Kenya, along the shores of Lake Victoria. It is one of the ten districts in Nyanza province. The Economic Survey 2005 lists Nyanza as Kenya's poorest province with poverty levels ranging from 65 to 80 percent.

HomaBay used to have a busy port that provided the focus for most of the town's activities (fishing, trade and a little tourism) but in June 1997 this and much of the shoreline around became completely hemmed in by over a kilometer of thick, green water

hyacinth. Boats to Kisumu and Mbita were suspended and most of the local boats sold since then, fishing which was the most important economic activity has dwindled and poverty continues to bite. The survey identifies HomBbay as among the poorest district of Nyanza Province.

HomaBay district has It's headquarter at HomaBay Town. The District covers an area of 1226 Square Km exclusive of water surface. The population density currently stands at 1,033 persons per square km. The average land size is 1 acre (0.4 ha) per family which is used mainly for crop and livestock production. Over 62 percent of the population in HomaBay district lives below the poverty line (Republic of Kenya, 2004). Food poverty is chronic due to poor access to production resources. According to the Republic of Kenya (1997), 309,000 people were classified as absolute poor in the district. The distribution of the poor in the district varies from one constituency to another.

The following issues were cited as prevailing in the district; land subdivision and pressure, low entrepreneurial skills, lack of credit, retrogressive culture and unemployment are some of the primary causes of poverty identified during the poverty consultations held in the district in the year 2000 (Republic of Kenya, 2001).

3.5 Data Source

Data from Kenya Integrated Household Budget Survey (KIHBS) 2005/06 conducted by Kenya National Bureau of Statistics (KNBS) was used in this study. The survey was carried out for a period of 12 months starting 16th May 2005. The survey was conducted in 1343 randomly selected clusters across all the districts in Kenya comprising 861 rural and 482 urban. Following a listing exercise, 10 households were selected with equal probability in each cluster resulting in a total sample size of 13430 households. In HomaBay district, a total of 164 households were covered, 110 rural and 54 urban. KIHBS instruments were used to collect data. All the information (data) for variables (as indicated in table 3.1) relevant for the purpose of this study were collected.

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The analysis is based on the Kenya Integrated Household Budget Survey (KIHBS) 2005/06 conducted by Kenya National Bureau of Statistics (KNBS). The survey collected information on socio economic characteristics of the household, economic activities and time use, household asset endowments, consumption and income among other variables of interest. It is from this data that the researcher extracted the variables of interest that were used to analyze the determinants of poverty in HomaBay district.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter presents the findings of the study and the interpretation of the results.

4.2 Descriptive Statistics of Sample

The analysis in this paper is based on a sample of 164 households. The household characteristics are presented in Table 4.1. The data shows that about 76% of the household heads were male, while 54% were married. In terms of location, 77% of household are in rural areas. 59% of all household heads had primary school education while 31% post-primary including secondary, tertiary and university. Variables to capture household composition and size were included. The average age of household head was 41 years while the average household size is 5. This is based on the expectation that household members of different age will have different consumption requirements, which have different welfare implications. In addition, 28% of household members were earning income, 5% were sick 4 weeks prior to survey undertaking and 2% were physically challenged households heads.

Earning income and resource endowment will also determine the level of poverty of the household. From the survey, the average household income was Ksh. 2,374 per month. Every household had an average of 3 cows and 4 acres of land, with 71% of households owning a parcel of land. Among these, 39% had title deeds for the land.

Table 4.1: Sample Characteristics

Variable	Mean	Std. dev.
Poverty status (1=poor)	.567	.497
Age of Household(yrs)	41.47	18.05
Household size (numbers)	5.52	2.62
Sex (1=male)	0.76	0.38
Marital Status (1= married)	0.54	0.12
Primary schooling dummy	0.59	0.29
Post primary schooling dummy	0.31	0.15
Employment sector (1= informal, 0 otherwise)	0.68	0.50
Main occupation (1= agriculture worker, 0 otherwise)	0.53	0.39
Rural area dummy	0.77	0.41
Total land holding (acres)	4.01	3.22
Total livestock units owned (numbers)	3.38	2.19
Sick or injured 4 weeks ago	0.05	0.06
Physically disabled	0.02	0.15
Member can read and write (umbers)	129	56.34
Household own parcel	0.71	0.45
Household whose land has title deed	0.39	0.49
Total income	0.28	0.45
Main source of water for drinking (Piped)	0.06	0.26
Time taken to get water for drinking (hrs)	2.14	1.22
Total cost of water for drinking (Kshs per 20 litre Jeri can)	1.97	5.28
Cost of lighting/Kerosene (Kshs) per month	107.11	71.22
Minutes taken to travel to work (mins)	5.64	13.80

Sample size = 164 households

Employment sector and occupation of the household head are also included in the analysis. The data shows that about 68% of all household heads worked in the informal sector while the main occupation of 53% of the household heads was agricultural sector related activities. Only 6% of households that indicated to have piped water and all of them were in urban location. The other variables of interest included time taken to fetch or queue for drinking water (with mean hours of about 2.1 and 4 respectively). Minutes taken to reach work place was included with an average of 5 minutes.The cost for drinking water and lighting was also considered. On average it cost kshs 1.97 to buy a jerican of 20 litres of water while kerosene bill of lighting the house is about kshs 107 per month.

4.2.1 Poverty Status of the Household

To observe the proportion of poor households within the dataset, the absolute poverty line was used. The food poverty line is the cost of consuming 2250 calories per day per adult. The 2250 calories figure is based on the recommendations of the Food and Agriculture Organization (FAO) of the United Nations and the WHO on food consumption for specific age groups (Republic of Kenya 1998). This food basket takes into account the consumption patterns of the Kenya population. The absolute poverty line derivation takes into account the basic non-food requirements (health, education, fuel, clothing and transport) of the population. Based on KIBHS 2005/2006, the national rural poverty line was estimated at Ksh 1562 per month (KNBS, 2007). Using the national rural poverty line of Ksh 1,562 per month, this study determined the proportion of poor household in HomaBay district to be 56%.

4.2.2 Gender and Poverty Status

Table 4.2 shows that about 81.6% of the household heads were male while female headed households are 18.4%. Among male headed household , 44.1% are poor compared to 11.8% who are female. Similarly, the proportion of non poor male headed households were 37.5% compared to 6.6% female. The spread of poor and non poor household between both gender is almost equal proportional. This result indicates that gender may not be a contributing factor to poverty.

Table 4.2: Poverty Status by Gender of Household head

Poverty Status	Gender of Household head		Total
	Female	Male	
Non poor	10 (6.6%)	57 (37.5%)	67 (44.1%)
Poor	18 (11.8%)	67 (44.1%)	85 (55.9%)
Total	28 (18.4%)	124 (81.6%)	152 (100%)

4.2.3 Marital status of the household head

The responses of household heads indicate that majority of household heads are married as represented by about 47 percent with 12 percent being polygamous, 7 percent were widowed while 25% were unmarried household heads as indicated in table 4.3 below. Having households headed by single parents has an effect of shifting more burden to society and further escalating poverty because catering for themselves and children is hard. Single parenthood may threaten economic and emotional security for children in the future and need to be discouraged.

Table 4.3: Marital status of the household head

Marital Status Household head	Frequency	Percent
No response	34	21
Polygamous	19	12
Widow or Widower	13	7
Never married	41	25
Monogamous	57	35
Total	164	100

4.2.4 Poverty Status and Level of Education

As indicated in the Table 4.4 below, the level of education of the respondents indicates that most household heads in the study areas have some education. Households with primary school education and post secondary education constitute 35% and 43% respectively. Those households headed by respondents with primary education, 14% were poor compared to 21% who were non poor. Similarly, 19% of households headed by post secondary education holders were poor compared to 24% non poor.

Table 4.4: Education of Household Head by Poverty Status

Education Status	Poverty status		Total
	Poor	Non Poor	Total
No education	24 (16%)	8 (6%)	32 (22%)
Primary education	21 (14%)	29 (21%)	50 (35%)
Post Primary education	26 (19%)	36 (24%)	62 (43%)
Total	71 (49%)	73 (51%)	144 (100%)

Interestingly, the household heads who can read and write represents 75.8 % of the total sample, of which 41.1% are poor households as shown in table 4.5 below. This result indicates that illiteracy contribute to poverty levels.

Table 4.5: Poverty Status by Literacy Levels of Household Heads

Literacy status	Household head who can read and write		Total
	Yes	No	Total
Non poor	62 (34.7%)	9(5.5%)	71 (43.3%)
Poor	78 (41.1%)	15 (9.1%)	93 (56.7%)
Total	140 (75.8%)	24 (14.6%)	124 (100%)

4.2.5 Age of the Household Head

As noted in figure 4.1 below, the majority of the household heads are of 19 - 65 years. This segment represents about 94 percent of the sample. Thus, most of the respondents fall in the working class. This implies majority of household heads have ability to earn income and not dependent on others, which may reduce poverty levels in their households. However, most of them may not find employment opportunities rather they are engaged in subsistence agricultural activities.

Figure 4.1: Age of the Household Head
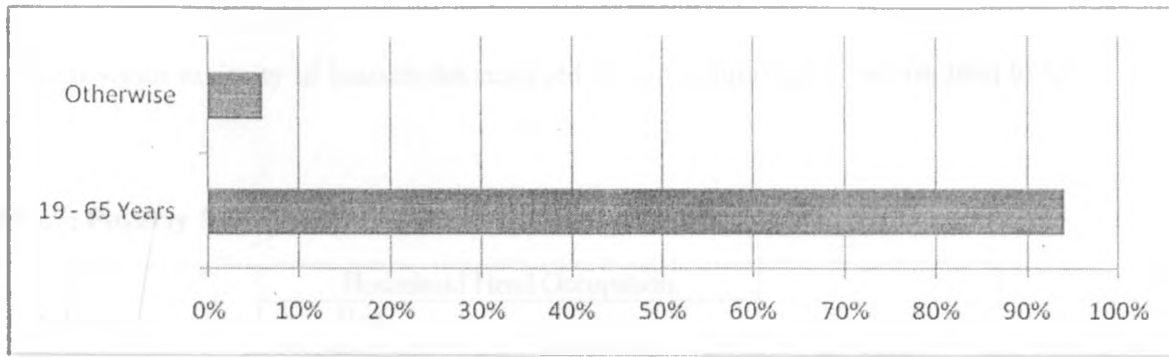
4.2.6 Employment, Gender and Poverty Status

Analysis of employment revealed that agriculture and fishing sectors are the main employer, employing about 87.2 percent of the sample. From the sample, 73.6% of the males are employed in the agriculture and fishing sectors compared to 16.1% females, as shown in table 4.6 below.

Table 4.6: Gender of Household Head and Sector of employment

Sector of employment/Occupation	Gender of H/h head		Total
	Female	male	
Primary education teachers	0	1.1%	1.1%
Hairdressers, barbers, beauticians and related workers	0	1.1%	1.1%
Subsistence agricultural and fishery workers	16.1%	73.6%	89.7%
Tailors, dressmakers and related workers	0	1.1%	1.1%
Other sales and service labourers	2.3%	2.3%	4.6%
Farm- hands and related labourers	1.1%	1.1%	2.3%
Total	19.5%	80.5%	100%

Table 4.7 below shows that among those employed in agriculture sector, 48.2% were poor compared to 32.6% who were non poor. This result indicates that most poor work in agriculture sector in HomaBay district because this is a rural district and working in the sector requires limited skills. Agricultural activities usually are associated with low incomes hardly enough to sustain households needs. Due to low incomes earned from

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agricultural sector majority of households engaged in agricultural activities are tend to be poor.

Table 4.7: Poverty Status by Occupation of Household Head

Poverty status	Household Head Occupation		Total
	Non Agriculture	Agriculture	
Non poor	13 (9.2 %)	46 (32.6 %)	59 (41.8%)
Poor	14 (9.9 %)	68 (48.2 %)	82 (58.2%)
Total	27 (19.1 %)	114 (80.9 %)	141 (100%)

Analysis of the main sector of employment revealed that most household heads are employed in informal sector, with poor accounting for 27.5% compared to 22.9% non poor, as shown in table 4.8 below. This shows that informal sector of the economy is highly associated with poverty levels in HomaBay district.

Table 4.8 Poverty Status by Main sector of employment

Poverty status	Household head main sector of employment		Total
	Informal	Formal	
Non poor	25 (22.9 %)	22 (20.2 %)	47 (43.1 %)
Poor	30 (27.5 %)	32 (29.3 %)	62 (56.9 %)
Total	55 (50.5 %)	54 (49.5 %)	109 (100%)

4.2.7 Location of Households and Poverty Status

Responses from household heads regarding their residence suggest that majority are located in rural areas, that is, 77.5 %, while 22.5 % are located in urban areas. This shows that most of the households in HomaBay district are located in rural areas characterized by underdeveloped infrastructure, limited availability of social services and lack of employment opportunities. Consequently, among 42.5% of rural dwellers were poor compared to 14.4% who are in urban areas. This indicates poverty is mostly a rural phenomenon.

Table 4.9: Poverty Status by Household Location Area

Poverty status	Household Location		Total
	Urban	Rural	
Non poor	13 (8.1 %)	56 (35 %)	69 (43.1%)
Poor	23 (14.4 %)	68 (42.5 %)	91 (56.9%)
Total	36 (22.5 %)	124 (77.5 %)	141 (100%)

4.2.8 Ownership of the Land and Poverty Status

Given that majority of respondents are employed in the agriculture sector, ownership of land is necessary as it enables one to participate in farming for subsistence production. Table 4.10 below shows that 71.2% of households had a parcel of land while 28.8% did not have. Among those who were poor, 41% had land while 12.2% did not have land. Among those with a parcel of land, 41% were poor while 30.2% were non poor. In addition, table 4.11 shows those with land, only about 5.3% had family owned land compared to 94.7 who had leased or rented. This result indicates that majority of households cannot make long term investment decisions in those rented/hired/leased land. Consequently, lack of individual/family ownership of land could worsen the poverty situation in the area.

Table 4.10: Poverty Status by Ownership of Land

Poverty status	Ownership of Parcel of Land		Total
	No	Yes	
Non poor	23 (16.5 %)	42 (30.2 %)	65 (46.8 %)
Poor	17 (12.2 %)	59 (41.0 %)	76 (53.2 %)
Total	40 (28.8 %)	101 (71.2 %)	141 (100%)

Table 4.11: Poverty Status by Type of Land Ownership

| Poverty status | Type Land Ownership | | Total |
	Rented/Leased	Family-owned	
Non poor	22 (57.9 %)	0 (0 %)	22 (57.9 %)
Poor	14 (36.8 %)	2 (5.3 %)	16 (42.1 %)
Total	36 (94.7 %)	2 (5.3 %)	38 (100%)

4.2.9 Source of Water and Poverty Status

As indicated in Table 4.12, 49.1% mainly use water from unprotected dug well/springs with 28.2% being poor while 20.9% being non poor. These results indicate that the poor are more likely to utilize unprotected water than non poor.

Table 4.12: Poverty Status by Main Source of Drinking Water

| Poverty status | Main Source of Water for Drinking | | | | | | Total |
	Tube well/borehole with pump	Protected dug well	Rain water collection	Unprotected dug well/springs	River/ ponds/ streams	Other	
Non poor	20 12.3%	3 1.6%	4 2.5%	34 20.9%	9 5.5%	1 0.6%	71 43.6 %)
Poor	20 12.3%	6 3.7%	9 5.5%	46 28.2%	7 4.3%	4 2.5%	92 56.4%
Total	40 24.5%	9 5.5%	13 8.0%	80 49.1%	16 9.8%	5 3.1%	163 100.0%

4.2.10 Distribution of Monthly Income

Though a significant proportion of household is educated and employed, Table 4.13 does not only depict high unequal distribution of income in the District but also low monthly earnings by the some of the household heads. The table reports that 38% of household heads earn less that Kshs 1,000 monthly. While 4 % accounts for those with monthly income above Kshs 10,000, 14 % represents those with monthly earnings in the range of

Kshs 1,000 – 10,000. The assertion drawn from the low monthly income earned by majority of household suggests high poverty rate in the district.

Table 4.13: Distribution of Household Monthly Income

Distribution of Household Monthly Income	Frequency	Percent
Less than 1,000	63	38
Between 1,001 and 5,000	19	12
Between 5,001 and 10,000	4	2
Over 10,001	7	4
Missing	71	43
	164	100

4.2.11 Poverty Status and Electricity

Table 4.14 shows that 90.2% of respondents do not have electricity from KPLC. Among them 72.4% are classified as poor while 17.8% are non poor. Since there is no other electricity connection in the area, it means that majority of the householders have to light their homes/business premises using their own private means, like paraffin or gas. The effect is that the lack of adequate electricity supply impedes substantial investment opportunities in the area.

Table 4.14: Households Connected with Electricity from KPLC

Responses	Non Poor	Poor	Total
No	17.8%	72.4%	90.2%
Yes	0.4%	9.4%	9.8%
Total	82.6%	17.4%	100%

4.2.12 Distribution of Type of Dwelling and Toilet Facilities

Type of dwelling is a good indicator of household poverty status. From the sample, 54.3 % of the families live in mud houses while 2.4 % live in stone houses, as reported in table 4.15 below. Of those living in mud houses, 42.4% were poor while 11.9% non poor.

It is worth noting that the kind of toilet accessible to particular household has impact on the health status of that family.

Table 4.15: Type of Dwelling of the Household

House Type	Non Poor	Poor	Total
Mad house	11.9%	42.4%	54.3%
Stone house	2%	0.4%	2.4%
Swahili	5.8%	17.4%	23.2%
Shanty	0	0.6%	0.6%
Manyatta/traditional house	4.8%	14.7%	19.5%
Total	37%	63%	100%

4.3 Determinants of poverty

A logistic model was estimated to capture the determinants of poverty as discussed in chapter 3, section (3.1). The dependent variable is the household poverty status. A proportion of fifty six percent of households sampled in the district were found to live below the national rural poverty line of Kshs 1562 per month (KNBS, 2007). The explanatory variables were household head characteristics and household socio-economic variables. These variables and their measures are discussed in details in section 3.2 of chapter three.

The marginal effects were used to explain the effect of explanatory variables on the poverty levels, and hence uncover the determinants of poverty in the HomaBay district. The marginal effect which explains the likelihood of poverty increasing or decreasing based on the sign of a unit change in any of the poverty indicators are presented in table 4.16 below. From the table, variables representing the occupation of the household head (measured as working in the agricultural sector), household size, age of the household heads, location of household being in rural areas, household head being a male and household head being physically disabled person are positive and statistically related to being poor. These results imply that these variables contribute to households in HomaBay

district being poor. Further, the estimated marginal effect of ownership of parcel of land and livestock by the household, household head being married, access to piped water for drinking, household head having post primary education and being able to read and write are negative and statistically significant.

Table 4.16: Marginal effects from the Logit Model of Poverty Status

Variables (Dependent variable:1= poor, 0= non poor)	Marginal Effects		
	dy/dx	Std. Error	Z Value
Time taken to get water for drinking (hrs)	-1.01	1.013	-0.99
Time taken to queue to get drinking water (hrs)	0.021	0.09	0.233
Total cost of water for drinking (khs)	-0.351	0.669	-0.524
Number of livestock (cows) owned by household	-0.822	0.316	-2.60*
Cost of lighting (Kshs)	0.68	0.591	1.15
Age of household head (between 19 and 65 years)	0.835	0.459	1.82***
Main occupation (1= agriculture worker, 0 otherwise)	1.58	0.83	1.90***
Employment sector (1= Private, 0 otherwise)	1.24	0.713	1.63
Total Income	-0.45	0.62	-0.72
Member can read and write (1= if Yes, 0 if No)	-0.989	0.571	-1.73***
Primary education dummy (1 if primary only, 0 if otherwise)	-0.07	0.95	-0.07
Post primary education dummy (1 if post primary only, 0 if otherwise)	-0.217	0.09	-2.41*
Household size (in number)	0.597	0.219	2.72*
Sex (1=male, 0= female)	0.015	0.008	1.87***
Household head marital Status (1= married)	-0.481	0.204	-2.35*
Location dummy (urban =0 or rural =1)	0.199	0.108	1.84**
Total land holding (In number of acres)	-1.01	0.82	-1.23
Minutes taken to travel to work (hrs)	0.534	0.622	0.85
Main source of water for drinking (If Piped = 1, 0 = otherwise)	-0.09	0.04	-2.25*
Household own parcel dummy (1= if Yes, 0 if No)	-0.472	0.121	-3.90*
Household whose land has title deed (1= if Yes, 0 if No)	0.418	0.389	1.07
House members sick/injured 4 weeks ago (1= if Yes, 0 if No)	0.149	0.182	0.82
Household head physically disabled dummy (1=if Yes, 0 if No)	0.361	0.131	2.75*

Y= Pr (p) (Predict) .56887
dy/dx is for discrete change of dummy variable from 0 to 1
*, **, *** indicate significant at 1, 5 and 10 per cent level.

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According to marginal effects estimation in table 4.16 above if members of a household increase by one person, the probability of that household being poor increases by 0.597. The result shows that the larger the household size, the poorer the household. This is because the larger number of household members are likely to be children, who are unproductive and yet they take a big proportion of household income in terms of school requirements, medical attention, food and clothing. The finding is closely related to Gedi et al. (2001) who indentified household size both in rural and urban areas, as closely associated with overall poverty.

The finding indicate that people living in households mainly engaged in agricultural activities are more likely to be poor, compared to households engaged in other occupations/economic activities. Specifically, engaging in agricultural activities increases the probability of being poor for the household by 1.58. This seems to be true since most people in the district earn low income from agriculture were found to below poverty line. Agricultural farming in the district is mainly for subsistence purpose and hardly for commercial.

Aging was found to be closely related to poverty. An increment in age of the household head by one year was found to increase probability of that household being poor by about 0.835. This may indicate the level of unemployment in the study areas; hence, productive workforce is idle depending on other few members of the community. Thus, there is high probability of this age group contributing to high poverty levels. This finding complements Zhang (2004) findings that age reduces productivity and ability to participate in labor markets and that increases health problems and other debilitating illnesses (e.g. malaria) is expected to increase poverty. Similarly, this finding is in agreement with findings that chances of households with high number of elderly members to be poor are very high (Kristjanson et al., 2004). Kristjanson et al., (2004) said that elderly increases dependency which is positively related to chronic poverty.

In addition, a household is likely to be 0.015 times poorer if headed by a male than if headed by a female. This finding is in line with Oiro (2002) finding that female headed household has higher welfare compared to male headed household.

Similar, rural location increases the probability of the household being poor by 0.199 compared to urban location. This result supports Gongi (2005) and Oiro (2002) findings. Gongi found that in Kakamega district more than half of the population live in poverty. Further, the study revealed that rural poverty was higher than urban poverty.

A household head who is physically disabled is 0.199 times more likely to be poor than one who is not physically disabled. This is because most persons with disabilities especially in rural areas have limited opportunities. They cannot engage in active agricultural activities, mostly practiced in rural areas which are more labour intensive. Hence they hardly earn adequate income but depend on others.

From table 4.16 several variables were found to mitigate the poverty situation in HomaBay district. These are ownership of parcel of land and livestock by the household, household head being married, access to piped water for drinking, household head having post primary education and being able to read and write. An increase in education is expected to reduce poverty. This study found that household heads with post primary education and those who can read and write are less likely to be poor than those with primary education only. Possession of primary education reduces probability of being poor by 0.217, while ability to read and write reduces probability of being poor by 0.989. Increase in education is expected to increase the stock of human capital, and in turn labor productivity and wages, and hence reduction in poverty level. The evidence on this relationship is very substantial, and in line with Nkonya et al. (2005) and (Zhang 2004) who argue that education increases agricultural earnings and incomes hence reduces the chances of being poor. Similar, Mango et al. (2004) argue that escape from poverty is associated with education attainment and getting a well paying job.

Access and use of piped drinking water was found to reduce the probability of being poor by 0.09. The result support the hypothesis that people living in areas with access to piped water or higher quality water will tend to have more livelihood options open to them and to be less poor. Households with access to piped water as the source of drinking water are likely to be less poor compared to those without access to piped water. Use of clean piped water is expected to reduce health problems and other debilitating illnesses (e.g. malaria) which increase productivity and ability to participate in labour markets and hence expected to reduce poverty. This finding is in line with Zhang (2004) and Kabubo-Mariara et al. (2009) who argue that access to clean water is welfare improving and not closely associated with poverty.

The estimated marginal effects show that household ownership of land and livestock reduces probability of household being poor by 0.472 and 0.822 respectively. Livestock ownership, which can be a good indicator of capital assets, has a negative sign, implying that in general, households with lower livestock densities have higher poverty rates. This implies that increase in livestock ownership in the district will reduce the poverty levels. Total holding of land does not seem to be important in determining poverty. However, households with parcels of land seem be less poor than those who don't have. This finding supports Hagos and Stein (2004) argument that increased physical asset endowments, in terms of farm size and livestock holding are positively related to improved household welfare. Land ownership seems to be the most important determinant of wellbeing (Bashaasha et al. 2006). Bashaasha et al. study found those households that own 5 acres of land and have a nonagricultural source of income and are actively involved in agricultural development activities have a higher probability (odds) of enjoying wellbeing above any given poverty level. These results suggest the importance of enhancing the poor's human and physical endowments in poverty reduction.

The results also show that being married reduces the probability of household being poor by 0.481. This is true as married people can combine their resources which can generally contribute to improvement in welfare.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

The high poverty incidences in HomaBay district created a desire for empirical studies and sustained generation of new knowledge to inform poverty reduction strategies in the area. Consequently, this study was an attempt to analyze rural household poverty determinants using households head characteristics and household demographics. By identifying poverty causes at household level, the study facilitates the policy maker to devise appropriate policy toolkit to eradicate the vice. This paper is a contribution to poverty analysis by analyzing determinants of poverty in HomaBay district, using KIHBS (2005/6) data. The paper used the national rural poverty line of Kshs 1562 per month (KNBS, 2007) to estimate proportion of poor in the district. A logistic model was estimated to uncover determinants of poverty in the area. The marginal effects from the logit model of poverty status were used to explain the effect of explanatory variables on the poverty levels. The following section summarizes study findings.

The sample studied show that about 81% of the respondents were male, while 47% were married. In terms of location, 77% of households are in rural areas. The result revealed that 35% of all household heads had primary school education while 43% post-primary education including secondary, tertiary and university. The average age of household head was 41 years while the average household size was 5. In addition, 0.02% of household heads were physically challenged. From the survey, the average household income was Ksh. 2,374 per month while about 38% of household heads earn less than Kshs 1,000 per month. Every household had an average of 3 cows and 4 acres of land, with 71% of households owning a parcel of land, among them 39% had title deed of the land. The data shows that about 68% of all household heads worked in the informal sector while the main occupation of 90% of the household heads was agricultural sector related activities.

From the household head/spouse specific characteristics, age of the head was found to be positive and significantly correlated with poverty. Male household heads turned out to be positive and significant at 10 percent level, implying that male household headed is positively correlated with poverty. The household head physical disability was found to be marginally significant and with the expected positive sign, meaning it increases the probability of being poor. Where the household head/spouse was married, the probability of such household being poor was significantly reduced. Post primary education of the household head was also found to be significant and negative, albeit at 1 percent. Similarly, household heads who can read and write were found to have marginally higher probability of being non poor than those who can read or write.

Poverty is also found to be associated with the area where the households are located and economic activities the household head is engaged in. Living in rural area was found to significantly increasing probability of being poor. As alluded to earlier, households where the head is engaged in agricultural activities were likely to be poor. In addition, poverty was found to be an increasing function of the household size. As far as the effects of households' access to clean water for drinking is concerned, use of piped water was closely related with improved household welfare.

The finding reveals that asset holdings of households were closely related with the households' poverty status. Specifically, owning a parcel of land and livestock holdings were found to be highly significant but with negative signs. Households with land and livestock holdings had significantly higher welfare levels.

5.2 Conclusions and Policy Recommendations

From the findings, several conclusions can be drawn. Poverty status is very strongly related to where a household lives, and that living in rural areas are more prone to poverty. Poor households are more predominant in rural areas and engage mainly in agricultural activities. It is recommended that rural infrastructure be improved as this has potential benefits to enable poor households to come out of poverty (Pellekaan et al., 1995). Improved rural infrastructure would link rural areas to the rest of the market, reduce transport costs and probably increase producer prices due to increased competition. Households whose main source of income are agricultural or farm related are especially prone to poverty. This suggests the need for more remunerative off-farm employment activities.

Primary education of household heads is not always enough to protect a household from poverty; education beyond the primary level is more likely to keep a household out of poverty. The results provide fairly specific policy guidance for government. Clearly there is a need for continued investment in education to keep achieving reductions in poverty. Already free primary education, the bursaries through constituency development funds (CDF), and loans to poor students from the higher education loans board (HELB) seem to be bearing fruit. There is need to strengthen these policies, the recent policy on free secondary education should be strongly supported and strengthened if poverty is to be reduced.

Ownership of land where household member can engage in cultivation and rear livestock remains important protections against poverty. These results underline the significance of enhancing the land endowments and its utilization in poverty reduction. These suggest that adopting policies and strategies that reduce the pressure on agricultural land, promotes land management, and improves access to farmland will be key interventions for reducing poverty in Homabay District. These results also highlight the important role livestock continue to play as a livelihood option that can lead to lower poverty levels. So investment in improved livestock management, health and marketing strategies are pro-

poor policies where more efforts need to be concentrated. Change in welfare of households was significantly related to access to clean water. This suggests improving access to and quality of water infrastructure will be important in rural Homabay.

Finally, the physical wellbeing of households has an effect on poverty status. Physical disability of the household head results in higher probability of being poor. Sometimes this is worsened by limited access to health care services in rural areas. This calls for introduction of special life sustenance programs/mechanisms targeting the physically disabled persons. There is need to increase provision of health care services to the poor. The proposed health insurance scheme may not be feasible given the high prevalence of poverty in the country at the moment.

5.3 Areas for further research

This study didn't estimate the poverty levels in HomaBay district. The study relied on the national rural poverty line to determine the proportion of poor in the District, which is a simple measure of the incidence of poverty as the proportion of households that fall below the food poverty line are considered poor.. Therefore ,a study of estimation of the poverty in the HomaBay district using a appropriate tool like FGT framework is recommended. This will provide more robust results for determinants of poverty in the area.

This study was carried out at the District level. However, identification and mapping of critical spatial factors which largely determine livelihood options, strategies and welfare of rural sub locations through participatory research process, and results feeding into both sub local- and district-level would help understand poverty at local levels. In addition, poverty analysis focusing on the household, employing quantitative spatial data analysis methods to examine the spatial correlates of meso-, or sub location-level poverty incidence is recommended.

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