

**FACTORS AFFECTING ADEQUACY OF PROVISION OF HOUSING  
TO LOW INCOME EARNERS IN NAKURU MUNICIPALITY, KENYA**

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## DECLARATION

This project report is my original work and has not been forwarded to any university for any award.

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Date.....

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L50/74465/2012

This project report has been presented for examination with my approval as the University supervisor.

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## **DEDICATION**

I dedicate this project report to my father Elijah Ontita, Mother Truphena Bosibori, brothers Kephwa Bwana and Eric Nyang'ate and my sister Doris Kerubo who have been a pillar of strength in my life and constantly motivated me to strive for greater achievement

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## **ABBREVIATION AND ACRONYMS**

MWI - Ministry of Water and Irrigation

JMP - Joint Monitoring Programme

WHO – World Health Organization

UNICEF - United Nations Children's Fund

MDG - Millennium Development Goal

UN – United Nations

MCN – Municipal Council of Nakuru

UDHR - Universal Declaration on Human Rights

NEMA - National Environment Management Authority

NEC - National Environment Council

## ABSTRACT

The study was to investigate factors affecting adequacy of provision of housing to low income earners. Adequacy of housing provision is all about adequate standard of living. The research was conducted in Nakuru Municipality among low-income estates, namely Flamingo, Kimathi, Shauri Yako, Old Ojuka, Lumumba, Kaloleni, Bondeni and Kivumbini. The specific objectives were to examine how basic infrastructure affected adequacy of provision of housing, to establish how environmental factors affected adequacy of provision of housing and how accessibility of loans affected adequacy of provision of housing to low income earners in Nakuru Municipality. The study was supported by comprehensive literature review section in chapter two. The variables were basic infrastructure that is water, sanitation, environment whereby the researcher focused on waste management and finally access to loans. The research was both quantitative and qualitative. The study utilized the post facto survey design. Because of large population scattered over a large geographical area, cluster (strata) sampling was done to come up with a sample size of 358 households/units used in the study. But by the end of the data collection exercise information was collected from 327 respondents representing 91.3%. Data was collected with the aid of questionnaires. Descriptive statistics (frequencies and percentages) were computed. From the findings, adequacy of provision of housing was highly affected by water and sanitation whereby on sanitation it was discovered that a great number of respondents using pit latrines represent 75.2% while those who used flush toilets was represented by 24.8%. This showed adequacy of housing would be affected since the pit latrines were connected to the sewer line. 76.5% of the respondents fetched water from a public tap while 23.5% of the remaining respondent bought from vendors. In this case water was inadequately supplied. On environmental factors most of the respondent preferred burning of waste representing 43.1% while disposal by dumping represented 35.2% and those disposed through door to door represented 21.7%. Lastly on accessibility of loans out of the possible 327 respondents on 65 respondents accessed a loan representing 19.9%. The remaining 80.1% did not access loans. According to the respondents they said the interest rates were high and their income was unstable. The study recommended public health officers would be needed to reawaken the unconcerned attitude of the residents towards sanitary laws and regulations. The study also recommended that the municipal council of Nakuru in relation with the health sector should have barazas at least every month to increase public awareness on personal hygiene. The financial institutions should look to the plight of the low income earners and offer loans that do not attract high interest rates. Local Government Authority should be called to their primary responsibility to ensure regular collection of refuse in these areas. The assistance of international bodies like UNICEF and the United Nations Centre for Human Settlements (HABITAT) is requested for an effective and enduring renewal programme to be carried out in the area.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the study**

Housing is the leading component of urbanization, it is more numerous, more extensive, and has represents more investment than any other single use. Housing is fundamental to the health and well being of families and communities. For this reason access to quality, affordable housing is critical in any society. Although housing can be temporally or permanent structures, Jiboye (2011) defines housing as permanent structures for human habitation. It could also be defined as a home, building or structure that is a dwelling or place for habitation by human beings. The term “house” includes many kinds of dwellings, ranging from rudimentary huts of nomadic tribes to free standing individual structures. He notes that housing has become a critical component in the social, economic and health fabric of every nation. Its history is inseparable from the social, economic, cultural and political development of man.

Since the early times, man has made relentless efforts to obtain food and shelter as basic needs. The struggle for these basic needs has increased progressively as the human race advances in numbers and cultural diversity. The Universal Declaration of Human Rights of 1948 recognizes the right to adequate housing as an important component of the right to adequate standard of living which has been further reaffirmed by various international instruments including the International Covenant on Economic, Social and Cultural Rights of 1966, the Istanbul Declaration and Habitat Agenda of 1996 and the Declaration on Cities and Other Human Settlements in the New Millennium of 2001(Sessional Paper 3 2004 of National Housing Policy)

Kenya is experiencing rapid urban growth in a context of limited economic growth and restricted land supply. Rental housing is expanding as few people can afford their own homes. Rental accommodation in Kenyan towns has usually been associated with low-income households but it has also become the main form of housing for middle-income households and new urban residents of all income levels. (Mwangi, 1997).

The shelter situation in Kenya just like in most developing countries is such that housing demand far outstrips supply, particularly in urban areas. The shortage in housing is

manifested by overcrowding and spread of slums and squatter settlements in urban centers and peri-urban areas. According to Sessional Paper No. 3 of the National Housing Policy of July 2004, Kenya's urban housing demand is estimated at about 150,000 units per annum with an estimated annual average supply of only 35,000 units. If factors that constrain housing production are not addressed, the current situation is likely to be sustained or worsen. The 1996 Global report on *Human Settlements, An Urbanizing World*, highlights that while there is no evidence that a threshold population size exists beyond which cities generate more negative than positive effects for their countries, in many cities the rapid pace of population growth and enormous size of the population have overwhelmed the capacity of municipal authorities to respond. 15 Millions of people in the developing country cities cannot meet their basic needs for shelter, water, food, health and education.

The World Health Organization (WHO) describes housing as residential environment which includes the physical structure used for shelter, all necessary services, facilities, equipments and devices needed or desired for the physical and mental health and social well being of the family and individuals. The United Nations Ad-Hoc Group of Experts on Housing and Urban Development equally asserts that housing is neither a mere shelter nor household facilities alone. It is an essential need that comprises essential services and facilities, which make up a physical environment that link such individuals and their family to the community in which it evolves.

Researchers mainly look at adequate housing and affordable housing as important components of Housing. According to the Istanbul declaration and the habitant agenda (UNCHS, 1997:35) quotes that:

*“Adequate shelter means more than a roof over one's head. It also means adequate privacy, adequate space, physical accessibility, adequate security, security of tenure, structural stability and durability, adequate lighting, heating and ventilation; adequate basic infrastructure such as water supply, sanitation and waste management facilities, suitable environmental quality and health related factors and adequate and accessible location with regard to work and basic facilities- all of which should be available at an affordable cost”* (Jensen & United Nations Centre for Human settlements 1997).

## **1.2 Statement of the problem**

In January 2003 when the National Alliance of Rainbow Coalition Government rose to power one of their manifestos was to develop a housing policy. The policy was aiming at enabling

the poor to access housing, provide basic services and infrastructure necessary for a healthy living environment especially in urban areas. The manifesto further emphasized the need for the government to facilitate increased investment by the formal and informal private sector in the production of housing for low and middle income urban dwellers, Slum upgrading, research into affordable building materials and technologies, and establishment of a Housing Development Fund. On 30th June 2004 the Kenyan Parliament passed a new National Housing Policy that comprehensively addresses the shelter problem. One of the policy targets was urban housing. As a country becomes more developed there is greater need for adequate and decent shelter to facilitate the people's basic needs. The state of increased population has posed inadequate housing thus posing an opportunity for expansion in housing industry and hence leading to stiff competition in the industry. Nakuru, being the 4<sup>th</sup> largest town in Kenya is a cosmopolitan with its population rapidly increasing. Therefore the study addressed the issues that were hindering inadequate provision of housing to the low income earners. It's realized that the residents' health has been compromised for long due to improper disposal of solid waste, poor sanitation and lack of insufficient supply of water. The population (low income earners) has little knowledge about bank loans.

Nakuru Municipal Council has designated eight settlements within its boundaries as low-income earner these are Flamingo, Kaloleni, Kivumbini, Manyani, Kimathi, Bondeni, Shauri yako and Old Ojuka. The population distribution is shown in appendix 3.

### **1.3 Purpose of the study**

The purpose of this study was to investigate factors affecting adequacy of provision of housing to low income earners in Nakuru Municipality, Kenya

### **1.4 Specific Objectives**

The study was guided by the following specific objectives:

1. To examine how basic infrastructures influenced the adequacy of provision of housing to low income earners in Nakuru Municipality
2. To establish how environmental factors affected the adequacy of provision of housing to low income earners in Nakuru Municipality
3. To assess how accessibility of loans affected adequacy of provision of housing to low income earners in Nakuru Municipality

## **1.5 Research Questions**

The following research questions guided the study;

1. How does basic infrastructures influence adequacy of provision of housing to low income earners in Nakuru Municipality?
2. To what extent do environmental factors affect adequacy of provision of housing to low income earners in Nakuru Municipality?
3. How does accessibility of loans affect adequacy of provision of housing to low income earners in Nakuru Municipality?

## **1.6 Significance of the study**

This study will be important to various stakeholders as described under: The findings of this study would benefit various Councils in that they will be liaising with other clients in order to establish their needs, and also look for the best ways of meeting these needs better than their competitors.

The tenants would have a heightened awareness in regard to what factors to consider when choosing a house. The Council's top management will use the study findings in decision making to enable them to improve their services and expand their clientele base.

New entrants in the housing industry will also benefit from the findings on what the tenants look for in a house. It will serve as an industry analysis to enable them to know how tenants make their choices for houses. Researchers and academicians will use these findings as a basis for future research.

## **1.7 Limitations of the study**

The study was conducted in Nakuru Municipality. It focused on low income tenants who lived in house units that were rented out by Municipal Council of Nakuru. Therefore the study did not apply to low income tenants in other municipalities.

The data collection technique which included administering questionnaires was time consuming and some questionnaires were not returned. The researcher being a student was faced with a problem of inadequate funds to finance the study.

### **1.8 Delimitations of the study**

The study focused on provision of housing by the municipal council. This presented the environmental and physical condition of housing.

Nakuru is the fourth largest town in Kenya cosmopolitan town, with its population coming from all ethnic groups in the country. Therefore it could be said it has a representation of all the country's low income earners. The study did cluster sampling of the residents and with the validity of the research instrument, it allowed generalization of information across tall estates under the municipal council.

### **1.9 Basic assumptions of the study**

Assumptions made on this research were; respondents from various seven estates that are catered for by the Municipal Council would be truthfully with the information they volunteered to offer. Also the results that were collected from the sampled tenants' had good representation of the entire housing sector in Nakuru municipality.

### **1.10 Definitions of significant terms**

The following terms were used in the study

**Low income earners-** Low income earners can be divided into two categories, namely, the low income earners who have no gainful employment and the low income earners who are employed junior workers in government and other private establishments. They can also be self-employed.

**Urban low cost housing-** is regarded as housing comprising a minimum of two habitable rooms, cooking area and sanitary facilities, covering a minimum gross floor area of 40 square meters for each household.

**Affordable housing-** is housing that is appropriate for the needs of a range of low to moderate income households and priced so that low and moderate incomes are able to meet their other essential basic living costs

**Adequate housing** - refer to adequate standard of living; that is access to clean drinking water, sanitation facilities, refuse disposal.

### **1.11 Organization of the study**

Chapter one covered background of the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, limitation and delimitation



of the study, basic assumptions of the study, definition of significant terms used in the proposal, and organization of the study.

Chapter two covered literature review, which was organized under introduction, housing provision, basic infrastructure, environment and accessibility of loan facilities, theoretical framework and conceptual framework summary of literature review.

Chapter three covered research methodology with the following topics; introduction, research design, target population, sample size selection and sampling procedure, data collection methods, data analysis, operational definition of variables.

Chapter four covered data presentation, analysis, and interpretation with the following topics; response rate, and presentation of the findings.

Chapter five covered summary of the findings, discussions, conclusions and commendations.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter focused on literature by different authors on adequacy and effectiveness of provision of housing among low income earners globally, Africa in general and Kenya in particular. The review covers several arguments and views postulated by various researchers across the world regarding factors that influence provision of housing.

#### **2.2 Housing Provision**

Housing is paramount to human existence as it ranks among the top three needs of man. The provision of adequate housing in any country is very vital as housing is a stimulant of the national economy. Housing is a set of durable assets, which accounts for a high proportion of a country's wealth and on which households spend a substantial part of their income. It is for these reasons that housing has become a regular feature in economic, social and political debates often with highly charged emotional contents. The problems of population explosion, continuous influx of people from the rural to the urban centers, and the lack of basic infrastructure required for good standard of living have compounded housing problems over the years. Access to this basic need by the poor who constitute the largest percentage of the world population has remained a mirage and it needs to be critically addressed. (Olotuah 2010)

Jiboye (2011) defined housing as a permanent structure for human habitation. It is also a home, building or structure that is a dwelling or place for habitation by human beings. The term "house" includes many kinds of dwellings, ranging from rudimentary huts of nomadic tribes to free standing individual structures. He continues by referring to it as a dwelling place, constructed as a home for one or more persons.

The right to housing in international law is recognized under Article 11 of the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR) which provides for "the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living

conditions”. Kenya is party to ICESCR, having ratified it in 1972. Article 25(1) of the Universal Declaration on Human Rights (UDHR) sets out the basis for the right to adequate housing by providing that:

*“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care.”*

According to the Constitution of Kenya (2010), the right to housing is now a constitutional right provided for in Kenya’s expansive Bill of Rights. Section 43 (1) (b) of the constitution provides that every person has the right to accessible and adequate housing and reasonable standard of sanitation.

Rapid urbanization has shaped the question of adequate housing in Kenya. An estimated 32.3 percent live in urban areas and another 67.7 percent live in rural areas. Kenya’s Ministry of Lands estimates that 50 percent of Kenyans will live in urban areas by the year 2050. With increased urbanization quality low cost housing remains unavailable for a majority of low income urban dwellers. A few development agencies have however emerged seeking to address the problem of poor urban dwellers. An example is the Jamii Bora Housing Programme which sells high quality but low cost housing to the poor at a cost of Kshs 150,000 for a two-bedroom unit. (Hakijamii 2012)

According to Nakuru Strategic Structure Plan (1999), the adequate provision of housing for the ever-increasing urban population is a necessary input into the orderly and sustainable growth of urban centers. Therefore provision of land for housing and the production of adequate and appropriate housing stock have a direct link to the wellbeing of the town’s inhabitants and the growth of the other sectors of the economy such as industry and commerce. Nakuru town’s population growth rate is estimated at 5.68 per cent annually. This growth rate is creating a high demand for housing. There are at least 6956 public housing units within the town, 5434 of which are owned by the Municipal Council of Nakuru and 1522 by central government departments and corporations. The rate of growth in the public housing sector is minimal. It is estimated that the majority (87%) of Nakuru residents are tenants while a significant 13% own and occupy their own units.

## **2.3 Infrastructure and housing**

Development of supporting infrastructure is a critical component of the realization of the right to adequate housing. Urban development investment has been largely uncoordinated, with responsibility being spread among too many institutions, including local government, sector ministries, quasi-private companies and utility services (Hakijamii 2012).

### **2.3.1 Water, Sanitation, Sewerage and Housing**

Sub-Saharan Africa has very poor levels of sanitation. Just over half the urban population (55 per cent) had access to improved sanitation in 2003, approximately the same proportion as in 1990. This is because between 1990 and 2003, the urban population increased by 80 per cent, and the number of urban dwellers lacking access to improved sanitation also increased drastically from 77 million in 1990, to 132 million in 2001, to 160 million in 2005 (UN-HABITAT, 2006c).

Kenya is a water-scarce country. The economic and social developments anticipated by Vision 2030 will require more high quality water supplies than at present. The country, therefore, aims to conserve water sources and enhance ways of harvesting and using rain and underground water (Kenya Vision 2030).

In the recent past, the supply of water has been characterized by chronic shortages affecting mainly the residential functions. The total water supply to Nakuru Town is 50,000m<sup>3</sup>/day. This is against the current water demand estimated at 75,000m<sup>3</sup>/day. The Council has about six major water reservoirs (Nairobi road, Prison high level, Western, Water works and Eastern storage). While most of the water distributed to consumers is treated some of the water from bore-holes is untreated.

The Ministry of Water and Irrigation (2009), is the key institution responsible for the water sector in Kenya. Estimates from the Joint Monitoring Programme (2010) for Water Supply and Sanitation (JMP) show that in 2008 59% of Kenyans (83% in urban areas and 52% in rural areas) had access to improve drinking water sources. 19% of Kenyans (44% in urban areas and 12% in rural areas) are reported as having access to piped water through a house or yard connection.

According to the JMP (2010) estimates, access to improved water sources in urban areas decreased from 91% in 1990 to 83% in 2008. In 2002 the water sector reforms in Kenya culminated with the passing of the Water Act, the Act which was gazetted in October 2002

gained legislative force in 2003. The Water Act introduced new water management institutions to govern water and sanitation. While water resources remained vested in the state, the water reforms saw the introduction of the commercialization of water resources as part of the decentralization process and the participation of stakeholders in the management of national water resources. Though the right to water and sanitation is not explicitly provided in the Water Act, through the water sector reforms, the right to water and sanitation has been formally recognized in a number of key policies. Following the water sector reforms the Water and Sanitation Trust Fund was established to primarily focus on ensuring the improvement of water accessibility by the poor and disadvantaged through the provision of financial support for investment into water services.

On the other hand adequate sanitation is the foundation of social development. According to the World Health Organization (WHO), a decent toilet or latrine is an unknown luxury to half of the people on earth. Almost 3 billion individuals do not have access to a decent toilet, and many of them are forced to defecate on the bare ground or queue up to pay for the use of a filthy latrine (UNICEF, 2001: 9). Neglect of sanitation exposes people to unhygienic conditions which leads to dangerous diseases especially diarrhea. To achieve the sanitation Millennium Development Goal (MDG) is a major challenge with an additional 2 billion people needing access to sanitation by 2015 (UN, 2004:7). The sub-Saharan African countries need to provide an additional one third of a billion people with improved sanitation by 2015 to meet the requirements of the Millennium Development Goal.

Countrywide estimates for 2008 by the JMP indicate that 27% of urban Kenyans had access to private improved sanitation. In urban areas an additional 51% of the population used shared latrines. The Kenyan Integrated Household Budget Survey of 2006 reported much higher sanitation coverage 84%, including shared latrines and shallow pit latrines.

To deny people basic sanitation is not just inhumane, but also knocks down the first step from a country's ladder of development. History has taught that a safe means to dispose of bodily wastes is not a luxury that can wait for better economic times but a key element in creating them (UN, 2004: 17). Therefore poor water supply and sanitation are still typical basic problems of growing settlements and megacities, most of which are located in developing countries.

## 2.4 Environment and Housing

There are different definitions of the word “environment” by different scholars. However, from whatever angle one perceives the term environment, depicts what surrounds us. According to Hagget (1975), environment refers to the sum total of all conditions that surround man at any point in time on the earth’s surface. Miller (1975) defines environment as the aggregation of external conditions that influence the life of an individual or population, specifically the life of man and other living organisms on the earth’s surface.

It is clear that although Kenyan law provides for entitlements to water and sanitation, it does not provide for the implementation of rights guaranteed under international law. However, the

Government is nevertheless bound by international law to guarantee to its citizens the human rights contained in international instruments that it has ratified with regard to water and sanitation (COHRE 2008).

Kenya aims to be a nation that has a clean, secure and sustainable environment by 2030. This will be achieved through:

- (i) promoting environmental conservation to better support the economic pillar’s aspirations
- (ii) Improving pollution and waste management through the application of the right economic incentives.

Jande (2005:4) describes pollution as something dirty or no longer pure, especially by adding harmful or unpleasant substances to it. He continues by referring to it as a situation where waste-materials and/or harmful substances which can deplete, wear/tear away and affect the entire environment and cause disorderliness to all living organisms.

The Environmental Management and Co-ordination Act (1991), deals with matters concerning the management of the environment, complementing the mandate of the Water Resources Management Authority. The Act entitles every person to a clean and healthy environment with corresponding obligations to protect and manage the environment (COHRE 2008). The act establishes the National Environment Council (NEC), National Environment Management Authority (NEMA), provincial and district environment committees, and the Public Complaints Committee. These organs create avenues for public participation. Residents of the informal settlement are routinely targeted as polluters responsible for the mismanagement of their environment.

### **2.4.1 Solid Waste management and Housing**

Waste can also be classified as hazardous or non-hazardous. Hazardous waste is any substance which cause or have potential to cause harm to human beings or the environment because of its toxic, corrosive, flammable, reactive nature. Toxic waste can lead to death or serious injury when inhaled, ingested or absorbed. Corrosive waste can lead to deterioration of material and body tissues at the point of contact (Mato and Kaseva, 1999). Non-hazardous wastes are those that pose no immediate threat to the environment and to human health. Household waste is included in this category (Wangila 2010).

Therefore Solid wastes could be defined as non-liquid and nongaseous products of human activities, regarded as being useless. It could take the forms of refuse, garbage and sludge (Leton and Omotosho, 2004).

Under the Public Health Act (Cap 242), the Local Government Act (Cap 265) and its by-laws, local governments are charged with the responsibility of ensuring proper storage, collection, transportation, safe treatment and, disposal of waste. This is with the ultimate goal of protecting public health, safeguarding the environment and maintaining public cleanliness (COHRE 2008).

Collection of solid waste is usually confined to the city centre and high income neighbourhoods, and even there the service is usually irregular. Consequently, most urban residents and operators resort to burying or burning their waste or disposing of it haphazardly (Liyala 2011).

Provision of municipal services by local authorities alone cannot be sustained in most cities of the developing countries (Francos and Bituro, 1999). Solid waste can be classified on the basis of source, characteristic and whether hazardous or not. Solid waste classification according to source has a wide consideration encompassing different solid wastes. Under this category there is household waste, domestic and municipal. This waste can be generated from caravans, educational buildings, hospitals, civil amenities and kitchen wastes. Other solid waste under this category include commercial waste, construction and demolition waste, industrial waste, agricultural waste, mining and quarrying waste, scrap metals, controlled waste and municipal solid waste. The characteristic of solid waste can also enable it to be categorized mainly in terms of their physical, chemical and biological waste. (Wangila 2010).

In Nakuru municipality, solid waste is collected by point to point method. The management of solid wastes in Nakuru municipality is primarily the responsibility of the Nakuru Municipal Council. However, in recent years, private sector entrepreneurs have increasingly been involved in refuse collection and disposal. The municipality has only one designated dumping site located on the Western side of the town (London). Here open dumping is practiced in an abandoned quarry site. The majority of waste generators however dump their refuse in undesignated dumping sites where it is either burnt or left unattended. The main problems confronting solid waste management include, poor organization, low public awareness on environmental health, lack of adequate personnel and appropriate equipment and use of poor waste handling techniques ( Nakuru Strategic Plan 2009, Vol: 2)

## **2.5 Accessibility of Loan Facilities**

According to Ward (2001), lack of access to credit facilities forces families to make do with inadequate resources, to live and work in multi-functional spaces combining makeshift shacks, partly finished rooms, and temporary partitions for walls. Although the failure of many poor households to access mortgages and loans is often viewed as a symptom of the greater underlying problems of poverty, low wages and unemployment, scarcity of housing finance may also be seen as a distinct issue. Data from the Housing Indicators Program (World Bank 1993) indicate that access to formal financing, considered apart from average household income levels, is an important determinant of housing conditions (Datta and Jones 1998). One of the reasons that families with inadequate shelter are unable to access loans is that they work in the informal sector, and so are less able to provide employment documentation whether or not their current income level would qualify them for a loan. Research shows that financing institutions favor households with above-average incomes, employed in the formal sector, and where the head of household is male (Rojas, 1995)

According to Erhard in Tesfaye (2007), at least three major reasons can be singled out for the inability of the majority of the population in developing countries to get access to housing finance. These are: absence of a good collateral, informality and instability of income and lack of information about the borrowers (Erhard 1999).

A number of approaches have been devised by financial institutions in order to minimize the risk of default by those who borrow funds to construct or acquire houses. These approaches on the other hand are seen as challenges to low income earners in developing countries (Ferguson, 1999). They include:



- i. One of the requirements is proof of regular income from the low income earners. This indirectly shows that the financial institutions usually lend loans to those who have some kind of formal employment or an assured source of income generating regular returns within a specific period of time. This implies that the household pays a same amount of money per month in servicing the housing loan. This has the effect of making the household get used to the monthly responsibility. It can be argued that this approach will definitely eliminate those whose earnings are irregular or even unemployed
- ii. Prerequisite for collateral to be presented before a loan is extended by the financial institution. The financial institution will require that the household provides an asset whose value is in excess of the amount on loan. Such as house, land or the house that is going to be acquired through the amount borrowed making it a mortgage.

## **2.6 Theoretical Framework**

This study will be based on theory of housing adjustment that was first discovered by Morris and Winter. The theory deals with how households think and behave in performing their housing behavior (Morris and Winter, 1996). Morris and Winter theory purports that if a household is below the norms of the society, that household feels dissatisfied and seeks to change its situation. The major components of the theory are housing norms and constraints that affect the household ability to act. When a household recognizes housing deficit possible corrective measures to be taken by the household is to move to a different house, do a household adaption whereby the household makes its own changes such as reducing needs and removing constraints (Sherman and Combs, 1997).

The theory of household adjustment mainly focuses on relationships among specific variables which may influence a person's job satisfaction and overall life satisfaction. In many cases this theory has been used to study constraints and residential satisfaction among low income earners and single parent families (Bruin and Cook, 1997).

## **2.8 Research Gap of the study**

Although the literature review has provided different views on water and sanitation, environment and accessibility to loans as factors affecting adequacy of provision of housing, the literature review shows that there is no study that has been done in Nakuru municipality

especially among the low income earners who are residing in houses provided by the Municipal Council of Nakuru.

## 2.9 Conceptual Framework of the study

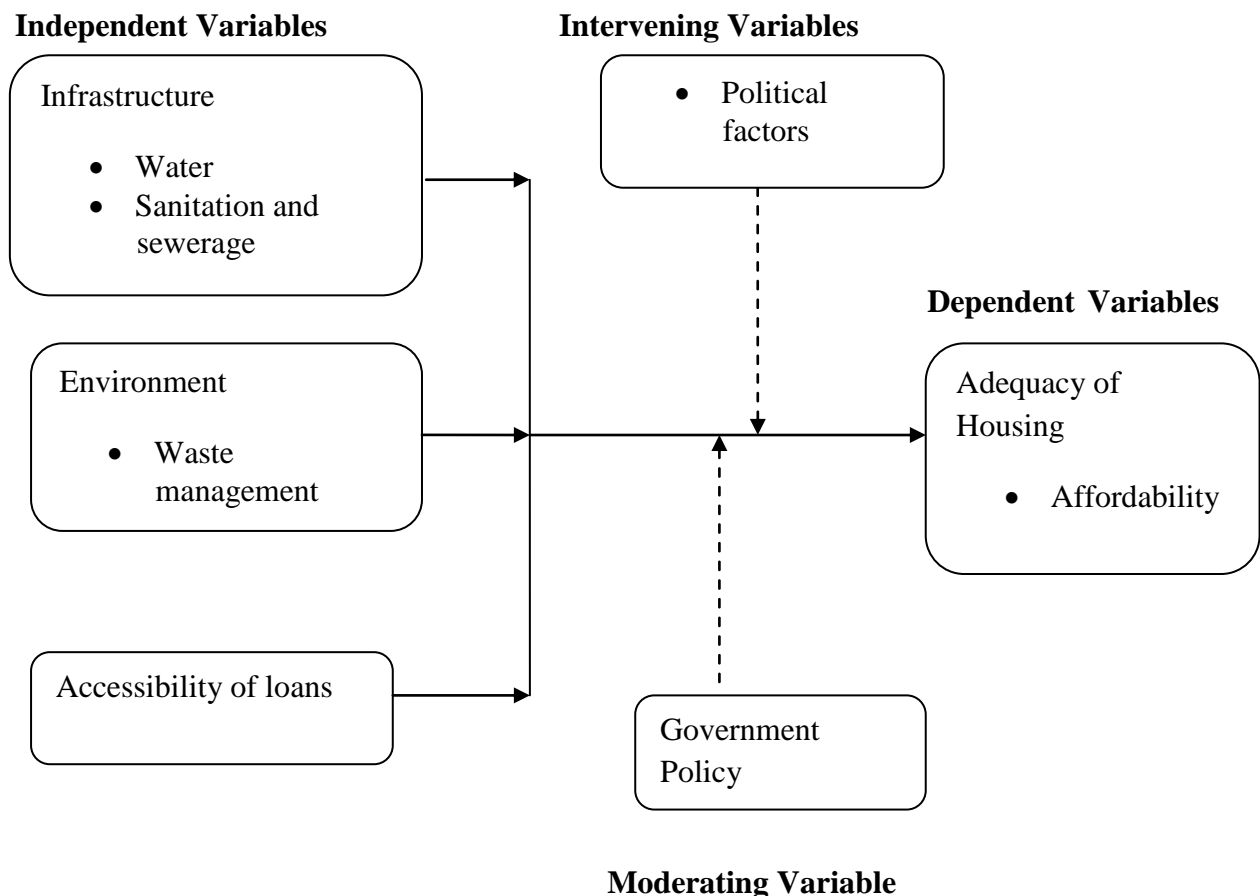
Figure 1 shows the relationship between the independent variables and dependent variables. Infrastructure, environment and accessibility to loans factors all have an influence on the depended variable.

This conceptual framework hypothesizes that there was a relationship between the infrastructure factors and depended variable i.e. water, and sanitation. The variable looks at the sources of water, types of toilet and number of toilets.

It also showed that there is direct relationship between the environment and the adequacy of house provision in terms of waste management that is methods of disposing waste.

The third independent variable is accessibility of loan. Here the employment status and level of income are important to influence adequacy of house provision. If they low income earners could

Figure 1: Conceptual Framework



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter discussed the methodological procedures that were used in data collection and analysis. The discussion included the research design, target population sampling procedure and sample size, data collection, and data analysis.

#### **3.2 Research Design**

The research design that was adopted by the study was descriptive study. The study utilized post facto survey design, aimed at assessing adequacy of provision of housing to low income earners. According to Mugenda and Mugenda (1999), survey is an attempt of collecting data from members of the population in order to determine the current situation of a population with respect of one or more variables. The research was both quantitative and qualitative. This is because both numerical and descriptive data were used in measuring the variables.

#### **3.3 Target Population**

According to Mugenda and Mugenda, (1999) population is a complete set of individuals or objects with common observable characteristics. Therefore target population is the population the researcher wants to generalize the results of the study. The targeted population in this study was the low income earners renting 5172 units provided by the municipal council of Nakuru. The total target population is tabulated in Table 3.1 in the next page;

**Table 3.1 Total target Population**

| Estate/Settlements | Number of Units | Number of Residents |
|--------------------|-----------------|---------------------|
| Kivumbini          | 624             | 3120                |
| Shauri Yako        | 294             | 1470                |
| Kaloleni           | 640             | 3840                |
| Flamingo           | 2638            | 15828               |
| Kimathi            | 456             | 2964                |
| Old Ojuka          | 18              | 126                 |
| Bondeni            | 310             | 1860                |
| Lumumba            | 192             | 960                 |
| Total              | 5172            | 30168               |

Source: Department of Housing Municipal Council of Nakuru

### **3.4 Sample size and Sampling Procedure**

Mugenda and Mugenda (1999) define a sample size as the list of elements from which the sample is drawn. According to the authors it's realized that the researcher have a problem in determining the sample size required for there size. Therefore a rule has been established to obtain a big sample as possible. In social science the following formula can be used to determine the sample size:

$$n = \frac{Z^2 pq}{d^2}$$

Where: n= the desired sample size (if the target population is greater than 10000)

Z = the standard normal deviate at the required confidence level

p= the proportion in the target population estimated to have characteristics being measured

q = 1-p

d = the level of statistic significance test.

Since there was no estimate available of the proportion in the target population with the characteristic of interest, 50% was used as recommended by Fisher et al. (Mugenda and Mugenda, 1999). It is illustrated as,

Z = 1.96    p = 0.50    q = 0.50    d = 0.05

Therefore,

$$n = \frac{1.96 * 0.5 * 0.5}{0.05}$$

$$n=384$$

But since the target population for this research is less than 10000 the following formula will be used to determine the sample size.

$$n_f = \frac{n}{1 + n/N}$$

Where:  $n_f$  = the desired sample size (when the population is less than 10000)

$n$  = the desired sample size (when the population is more than 10000)

$N$  = the estimate of the population size

$$n_f = \frac{384}{1 + 384/5172}$$

$$n_f = \frac{384}{1.07}$$

$$n_f = 358$$

Therefore 358 units were sampled during the study

The cluster (strater) sampling technique was the sampling procedure that waw employed in this study. This is because obtaining a sample frame would difficult due to large population that is scattered over a large geographical area. Ideally, the researcher was meant to collect data from 5172 units/households from the eight settlements. Cluster sampling involves selection of an intact group where all the members are included in the sample (Mugenda and Mugenda, 1999).

### 3.5 Research instruments

The main instrument that was used to collect data for the study was administration of questionnaires. The questionnaires were structured to consist both closed and open ended type of questions in order to elicit enough feedback from respondents. Questionnaires were administered to units/ households.

### **3.6 Pilot Testing**

The questionnaires were tested with a representative sample of households in Flamingo estate in Nakuru Municipality that has similar characteristics with the other estates under the same management. The results of the pilot study helped to identify necessary changes that should be effected in the questionnaire to improve the instrument prior to its administration.

### **3.7 Reliability and validity of research instrument**

This section explains the validity and reliability of research instruments that ensured the research is valid and reliable.

#### **3.7.1 Reliability**

Reliability is a measure of the degree which the research instrument yields consistent results or data after repeated trials (Mugenda and Mugenda 1999). In research reliability can be influenced by random error, so as random errors increases, reliability decreases and vice versa. Reliability will be improved by use of multiple indicators of the variables. In this study, the reliability of the research instrument determined by the use of the split-half reliability procedure where the researcher administered the entire instrument to a sample of respondents during the pilot testing and calculated using the total score for each randomly divided half i.e. odd and even numbered items of the questionnaire. A reliability coefficient between the two total scores will be calculated using the Spearman-Brown prophecy tool.

#### **3.7.2 Validity**

Saunders (2000) contends that research is valid only if it actually studies what it set out to study and only if the findings are verifiable. Validity is the degree to which results obtained from the analysis of the data actually determine the phenomenon under the study (Mugenda and Mugenda 1999). Validity addresses the question of how the social reality being measured through research matches with the construct researcher will understand it. (Neuman, 2006). There are three ways of testing validity in a research study. These are construct validity, criterion related validity and content validity. Construct validity test the degree to which between data obtained from the field actually conform to the underlying theory (Mugenda and Mugenda, 1999).

This study recognizes a balance between the two types of validity. External validity refers the degree to which research findings can be generalized to populations and environments

outside the experimental setting. Internal validity on the other hand explains the degree to which the design of study actually lends itself sufficient in answering the research questions or accepting /nullifying the stated hypothesis

### **3.8 Data Analysis**

Primary data from the questionnaires were analyzed using descriptive statistical analysis of quantitative. Data was fed into the computer and analyzed by a computer software known as Statistical Package for Social Science (SPSS). In this method of analysis measures of central tendency were obtained to determine the expected scores from the sample in the study. In social science measures of central tendency are used to give expected summary of statistics of variables being studied (Mugenda and Mugenda 1999). The tendencies commonly used are mode, mean and median.

### **3.9 Operational definition of variables**

This section defines the variable in terms of measurable indicators. The independent and the dependent variables are operationalized as shown in table 3.2

**Table 3.2: Operational definition of variables**

| Objectives  | Variable       | Indicators  | Measure  | Measurement Scale  | Type of Analysis   |
|---|----------------|---|--|--|--|
| To examine how basic infrastructures influenced the adequacy of provision of housing to low income earners in Nakuru Municipality | Infrastructure | <ul style="list-style-type: none"> <li>• Water</li> <li>• Sanitation</li> </ul> | <ul style="list-style-type: none"> <li>• No. of water sources</li> <li>• Type of toilets</li> <li>• Number of toilets</li> </ul> | <ul style="list-style-type: none"> <li>• Ratio</li> <li>• Ordinal</li> <li>• Ratio</li> <li>• Ordinal</li> </ul> | <ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> </ul> |
| To establish how environmental factors affected the adequacy of provision of housing to low income earners in Nakuru Municipality | Environment    | <ul style="list-style-type: none"> <li>• Waste Management</li> </ul>            | Methods of waste disposal  | Ordinal  | Frequencies  |
| To assess how accessibility of loans affected adequacy of provision of housing to low income earners in Nakuru Municipality       | Accessibility  | <ul style="list-style-type: none"> <li>• Loans</li> </ul>                       | <ul style="list-style-type: none"> <li>• Employment status</li> <li>• Level of income of the tenants</li> </ul>                  | <ul style="list-style-type: none"> <li>• Nominal</li> <li>• Interval</li> </ul>                                  | <ul style="list-style-type: none"> <li>• Percentages</li> <li>• Frequencies</li> </ul> |



## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND INTERPRETATION

#### 4.1 Introduction

This chapter presents the findings of the study. The study sought to establish the factors affecting adequacy of provision of housing to low income earners

#### 4.2 Questionnaire Response Rate

The study circulated 358 questionnaires to various respondents in all the estates under investigation. The following table shows the response rate.

**Table 4.1: Respondent rate**

|                                  | Frequency | Percentage |
|----------------------------------|-----------|------------|
| Number of questionnaire targeted | 358       | 100.0      |
| Number of questionnaire returned | 327       | 91.3       |

By the end of the data collection exercise a total of 327 respondents gave feedback out of the possible 358 respondents representing 91.3%.

According to (Gay, 1981), ten percent of the accessible population is enough for a descriptive survey and therefore, these response return rate of 91.3% was good and thus it helped to increase the reliability of the study.

The reason for the study not achieving 100% response was because the by the time the questionnaire were going to be collected some of the respondents were not in their house because others were still at their businesses. This means time was not enough.

#### 4.3 General Household Characteristics of the respondent

##### 4.3.1: Gender distribution among respondents

The study wanted to establish if the gender of the respondents could determine the adequacy provision of housing among the low income therefore the researcher came up with the following table:

**Table 4.2: Gender distribution among respondents**

| <b>Respondent</b> | <b>Frequency</b> | <b>Percentage</b> |
|-------------------|------------------|-------------------|
| Male              | 119              | 36.4              |
| Female            | 208              | 63.6              |
| <b>Total</b>      | <b>327</b>       | <b>100.0</b>      |

As shown in Table 4.2, majority of respondents were female two hundred and eight representing 63.6%, one hundred and nineteen (119) representing 36.4% were males. Traditionally females played key roles executing most of the household chores. It is evident from the research findings that this study had more female respondents than the male respondents.

#### **4.3.2 Marital Status of the respondent**

Under this sub theme the table shows how the status of the respondents was distributed in the area of study.

**Table 4.3: Marital status of the respondents**

| <b>Respondent</b> | <b>Frequency</b> | <b>Percentage</b> |
|-------------------|------------------|-------------------|
| Single            | 97               | 29.7              |
| Married           | 173              | 52.9              |
| Widowed           | 57               | 17.4              |
| <b>Total</b>      | <b>327</b>       | <b>100.0</b>      |

From Table 4.3 with respect to marital status of respondents, ninety seven (97) of the respondents representing 29.7% were single and those married were one hundred and seventy three (173) respondents representing 52.9%. Those widowed were fifty seven (57) respondents representing 17.4%. This shows that the great majority of the respondents lived in these houses we were married.

### 4.3.3 Age distribution of the respondents

In the study the researcher wanted to know whether the age of the respondent would affect the adequacy of provision of housing. The following table shows the distribution of age in years

**Table 4.4: Age Distribution among the respondent in years**

| <b>Respondent Age Bracket</b> | <b>Frequency</b> | <b>Percentage</b> |
|-------------------------------|------------------|-------------------|
| 18 - 24                       | 15               | 4.6               |
| 25 - 29                       | 53               | 16.2              |
| 30 - 34                       | 94               | 28.7              |
| 35 - 39                       | 79               | 24.2              |
| 40 - 44                       | 51               | 15.6              |
| 45 - 49                       | 27               | 8.3               |
| 50 yrs and above              | 8                | 2.4               |
| <b>Total</b>                  | <b>327</b>       | <b>100.0</b>      |

As indicated in Table 4.4, majority of the respondents were aged between 30-34 years representing 28.7% followed by respondents aged 35-39 representing 24.2%. 53 respondents were between the age of 25 and 29 years representing 16.2% followed closely by respondent of age bracket between 40 and 44 who were 51 representing 15.6%. Respondents aged 18-24 were 15 representing 4.6%. The least was 50years and above whose respondents were 8 representing 2.4%. Generally, the majority of the respondents were between 30 to 39 years and of their middle age.

It was discovered that in this area of study there were different age groups.

### 4.3.4 Type of House unit

The study seeks to understand the type of housing in the estates and the following table represents the distribution.

**Table 4.5: Type of house unit**

| <b>Type House</b> | <b>Frequency</b> | <b>Percentage</b> |
|-------------------|------------------|-------------------|
| Single room       | 236              | 72.2              |
| Self contained    | 91               | 27.8              |
| <b>Total</b>      | <b>327</b>       | <b>100.0</b>      |

From the Table 4.5 above majority of the respondent lived in single house units that ranged from 850 to 1000 Kenyan shillings. They comprised 236 respondents representing 72.2% while the rest of the respondents who comprised 91 representing 27.8% lived in self contained houses. Therefore from the findings the researcher noticed that the residents of these estates preferred living in single house because they were cheap compared to self contained houses. It was also found that those who lived in single houses most of them were not married and if they were married they had either one child or children at all. From the study researcher realized that there was different types of house unit that housed different categories of people.

#### **4.4 Infrastructure and adequacy provision of housing to low income earners**

One of the objectives that the study was interested in was to examine how basic infrastructure influenced the adequacy of provision of housing to low income earners. On this objective the researcher focused on sanitation and water that were a necessity to provision of housing.

##### **4.4.1 Sanitation and housing**

The study wanted to understand whether sanitation of the areas under investigation could affect adequate provision of housing and the table below presents the sanitation facilities that were used in the area

**Table 4.6: Sanitation facilities in the study area**

| <b>Type of toilet facility</b> | <b>Frequency</b> | <b>Percentage</b> |
|--------------------------------|------------------|-------------------|
| Flashing toilet                | 81               | 24.8              |
| Pit Latrine                    | 246              | 75.2              |
| Public toilets                 | 0                | 0                 |
| <b>Total</b>                   | <b>327</b>       | <b>100.0</b>      |

As indicated in Table 4.6 above, majority of the respondents two hundred and forty six (246) representing 75.2% use pit latrine facility followed by eighty one (81) respondents representing 24.8% who use Flash toilets. There were no respondent using public toilets since every two households shared a key to the pit latrine. From the findings the researcher was able to establish that most of the houses provided by the Municipal council of Nakuru did not have toilets in the house since there was no supply of water in the houses. It was found that those who used flashing toilets would fetch water from outside for flashing. Therefore it was concluded that sanitation was leading to inadequacy provision of housing to low income earners since most of the sanitation facilities used was pit latrines that were not connected to the sewer line hence it was a health threat to the residents of the study area. There were different types of sanitation facilities in the geographical area of the study. The

#### 4.4.2 Water and provision of housing

To determine the adequacy of provision of housing water was one of the variables to be considered. The table below shows residents' source of water.

**Table 4.7: Source of Water in the study area**

| Source of household water | Frequency  | Percentage   |
|---------------------------|------------|--------------|
| Public Well               | 0          | 0            |
| Public Tap                | 250        | 76.5         |
| Buying from vendors       | 77         | 23.5         |
| <b>Total</b>              | <b>327</b> | <b>100.0</b> |

As indicated in Table 4.7, majority of the respondent, two hundred and fifty (250) respondents representing 76.5% get their water from a public tap. Seventy seven of respondents representing 23.5% get their household water from water vendors who sell a 20 litre jerrican at KSh 15. There were no wells since there is a sewerage line that is within the municipality. From the findings it shows that there was no adequate supply of water because the residents most resident fetched water from a tap that was designated in a particular point. Therefore it clear that water was affecting the adequacy of provision of housing to low income earners in the sense that each house did not have access to water even from the public table they bought from the vendors. Water is an essential element in everyone's life therefore there is need adequate supply.

## 4.5 Environment and adequacy of provision of housing to low income earners

The second objective of the study was to establish how environmental factors affect adequacy of provision of housing to low income earners. Under this objective the focus was on solid waste management within the area of study.

### 4.5.1 Solid Waste Management in the study area

The residents in the study area were asked on how they managed their household waste and the impact it caused to their health. The table below shows the methods of disposal the respondents used.

**Table 4.8: The Environment in the study area**

| Methods of waste disposal | Frequency  | Percentage   |
|---------------------------|------------|--------------|
| Door to door              | 71         | 21.7         |
| Damping site              | 115        | 35.2         |
| By burning                | 141        | 43.1         |
| <b>Total</b>              | <b>327</b> | <b>100.0</b> |

From Table 4.8 above, one hundred and forty one (141) respondents representing 43.1% dispose waste by burning next to their houses. One hundred and fifteen (115) representing 35.2% dispose their waste at damping site. The remaining seventy seven (77) respondents representing 21.7% use the services of Nakuru municipal council whereby collection is done by door-to-door using garbage collection vehicles at a fee of Ksh 100 per month per household. Therefore from the findings is that, most resident preferred burning the waste because according to them it was cheap. Those who disposed waste by damping did it next to the latrines since there was a big space around the latrines meaning 35.2% of the respondent lived next to the latrines which was unhealthy. These category of respondents regarded that door to door garbage collection was expensive.

The residents indicated that the environment they were living in was a threat to their health hence inadequate provision of housing. Since they did not have proper ways of disposing their waste they were exposed to respiratory diseases due to burning, cholera dysentery and diahorrea. They said that the have never seen a garbage collecting vehicle

#### 4.6 Accessibility of loans and adequacy of provision of housing to low income earners

The last objective that was focused on in this study was to assess how accessibility of loan affected adequacy of provision of housing to low income earners. The following information was obtained from the respondents

##### 4.6.1 Employment status

The respondents were asked about their employment status and the table presents their response

**Table 4.9: Employment status**

| <b>Respondent</b> | <b>Frequency</b> | <b>Percentage</b> |
|-------------------|------------------|-------------------|
| Formal Employment | 76               | 23.2              |
| Unemployed        | 27               | 8.3               |
| Self employed     | 224              | 68.5              |
| <b>Total</b>      | <b>327</b>       | <b>100.0</b>      |

Results in Table 4.9, indicate that most of the respondents are self employed representing 68.5% while 23.2% are in formal employment. The rest of the respondents representing 8.3% are unemployed. From the findings it was interpreted that majority of the respondents were not educated to secure formal employment. Those in formal jobs were employed by private firms and others in industries. It was also realized that from the study most of respondents that were unemployed were housewives.

##### 4.6.2 Monthly income of the respondent

To access the loans the monthly income of the respondents was important and the table below show the income distribution.

**Table 4.10: Monthly income**

| <b>Respondent</b> | <b>Frequency</b> | <b>Percentage</b> |
|-------------------|------------------|-------------------|
| Less than 5000    | 209              | 64.0              |
| 5000 - 10000      | 79               | 24.1              |
| 10000 - 20000     | 39               | 11.9              |
| <b>Total</b>      | <b>327</b>       | <b>100.0</b>      |

From Table 4.10 most of the respondents are self employed and they comprise a total of 224 representing 68.5% followed by employed respondents comprising 76 respondents representing 23.2%. The rest are unemployed and they represent 8.3%.

As indicated in the table above, two hundred and nine (209) respondents representing 64% earn less than Ksh 5000 per month. Seventy nine (79) respondents representing 24.1% earn between Ksh 5000 and 10000 per month. Thirty nine (39) respondents representing 11.9% earn between Ksh 10000 and 20000per month

This shows that the monthly income of respondents is not adequate to access the loans and would therefore resort to several coping strategies by forming merry go round (chamaas)

#### **4.6.3 Accessibility of loan by the respondents**

The respondents were asked whether they have obtained loans from the financial institutions and whether they were successful and the response was given in the table shown below.

**Table 4.11 Loan accessibility by respondents**

|  |              | <b>Frequency</b> | <b>Percentage</b> |
|--|--------------|------------------|-------------------|
| <b>Have you ever applied for a loan?</b> | Yes          | 101              | 30.9              |
|  | No           | 226              | 69.1              |
|  | <b>Total</b> | <b>327</b>       | <b>100.0</b>      |
| <b>If yes were you successful</b>        | Yes          | 65               | 64.4              |
|  | No           | 36               | 35.6              |
|  | <b>Total</b> | <b>154</b>       | <b>100.0</b>      |

From Table 4.11, 30.9% of respondent applied for loan while only 69.1% did not apply. From the findings of the study it was discovered that those who applied for the loans were mostly from the formal employment. Very few were self employed. Out of 101 respondents who



applied for the loan on 65 respondents were successful representing 64.4% and the rest who presented 35.6% were unsuccessful. From the findings it was also established majority of low income earners could not access the loans because of the interest rates while others the income was not stable to service the loans.

From this objective it was discovered that without loans residents could not access adequate housing.

## **CHAPTER FIVE**

### **SUMMARY OF THE FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter contains a summary of the findings, discussions, conclusions and recommendations inferred from the findings. This research was carried out with a main purpose of finding out the factors affecting adequacy of provision of housing to low income earners. The study was guided by the following research objectives; to examine how basic infrastructures influence the adequacy of provision of housing to low income earners in Nakuru Municipality, to establish how environmental factors affects the adequacy of provision of housing to low income earners in Nakuru Municipality and to assess how accessibility of loans affects adequacy of provision of housing to low income earners in Nakuru Municipality. This chapter also contains the summary of the findings, discussions, conclusions and recommendations made at the end of the study.

#### **5.2 Summary of the findings**

From the finding from the possible 358 respondents that were sampled for the study on 327 respondents representing 91.3% gave the feedback in respect to the stud. Under general household characteristics there were more female representing 63.6% meaning majority of the household were headed by female. Similarly from the finding most of the respondents were married represent 52.9% and those who were single were 29.7% and the widow were representing 17.4% of the respondents. From the findings the age of the respondents was ranging from 18 to 50 years and above. The highest age bracket was between 30 and 34 years who resented 28.7% followed by those who ranges between 35 and 39 years. From the findings most of the respondents ranged from 25 years to 44 years. Therefore most respondents were female in their middle aged.

Under infrastructures which was focusing on how water and sanitation has influence the adequacy of provision of housing to low income earners in Nakuru Municipality from the

findings, most of the low-income earners obtained their water from public tap (76.5%) while 23.5% from vendors. There were no public wells in the area under investigation. The study also established that 75.2% of the households use pit latrines, and the facility was shared among 3 households. The rest that comprised of 24.8% used flushing toilets. There no public toilets in the area of the study. From the findings there was inadequate supply of water to the house units. The respondents did not observe personal hygiene as the toilets were not cleaned and foul smell.

To establish how environmental factors affects the adequacy of provision of housing to low income earners in Nakuru Municipality the study focused on solid waste management and from the findings 43.1% of the respondents indicated they dispose waste by burning. 35.2% of the respondents disposed their waste through dumping in one common place. The rest of the respondents who comprised 21.7% had their waste collected by the garbage collecting vehicle provided by the council at a cost of Ksh 100 per month. Therefore from the finding, most respondents preferred disposing their waste through burning not knowing the dangers they were exposing themselves too.

Last but not least the study investigated how accessibility of loans affected adequacy of provision of housing to low income earners in Nakuru Municipality. From the findings 101 respondents representing 30.9% applied for the loans while 226 respondents representing 69.1% did not apply. On the same note, those who applied for the were loans, out of 101 respondents, 65 respondents representing 64.4% were successful while 36 respondents representing 35.6% were unsuccessful .From the finding those who were successful were mainly from formal employment whose income was stable. 68.5% we self employed presenting bigger number while 23.2% were in formal employment. 8.3% were unemployed. 64.0% earned less than five thousand per month who basically comprised of self employed respondents. Accessibility to loans has portrayed a great challenge to respondents. The residents can not afford the interest rates that are charged by the financial institutions. This has made them remain in those houses since they are affordable.

### **5.3 Discussion of the study findings**

The study found out that infrastructure, environment and accessibility of loans affected the adequacy of provision of housing to low income earners.

The findings of the study concur with UNICEF (2001:9) that almost 3 billion individuals do not have access to a decent toilet. From the study it showed that the pit latrines were shared among three households and they were sometimes left open and in a pathetic state. Neglect of sanitation exposes people to unhygienic conditions which leads to dangerous diseases especially diarrhea. Sanitation being one of the Millennium Development Goals (MDG) there is an indication that it's a major challenge with an additional 2 billion people needing access to sanitation by 2015 (UN, 2004:7).

From the finding 24.8% used flush toilets. Only those houses that were self-contained had access to flush toilets while 75.2% used pit latrines. The pit latrines were permanent structures which could be emptied by the municipal council's vehicles exhausters. The same latrines were also used as bathrooms. From the finding the pit latrines lacked privacy in the day and security in the night due to their nature and location. They were difficult to keep clean and some had ill-fitting doors. Households without toilets were disposed of their waste indiscriminately, posing a danger to the health of the people due to flies and smell nuisance.

The earth summit conference (UNCED, 1999: 12) found diarrhea as the biggest child-killer on earth, taking the lives of 2.2 million children each year. The diarrhea episodes have left millions more children underweight, mentally and physically stunted. Children become easy prey for the deadly diseases and so drained of energy that they are ill equipped for the primary task of childhood; which is learning.

Most of the low-income earners obtained their water from public tap (69.7%). Even though there was a daily supply of water the time that it started running in the tap could not favor other residents since worked during the day and therefore they were forced to buy from vendors. The public taps were fewer whereby each tap was shared by 20 households. There were no public wells and boreholes due to the sewer line. The municipal council was therefore challenged to add more taps to reduce congestion and save time.

On the other hand the findings in some estates did not agree with COHRE (2008) on Public Health Act (Cap 242), the Local Government Act (Cap 265) and its by-laws, local governments who are charged with the responsibility of ensuring proper storage, collection, transportation, safe treatment and, disposal of waste. The findings of the study indicated that most of the residents used improper methods of waste disposal that could be a threat to their health and environment. This didn't march with the literature review where it indicates that Nakuru municipal council was entirely collecting waste from all the estates. It further

indicated that the private sector entrepreneurs were involved in refuse collection and disposal. This showed that the residents were having challenges in paying the private sector hence they opted for burning or dumping near their houses. This means that 78.3% were not aware of the environmental health risks they were exposing themselves to.

According to Nyasani, (2009), in his report on Urban Heart Project, management of solid waste in Nakuru is primarily the responsibility of Nakuru Municipal Council. However, in recent years, private sector entrepreneurs and community-based organizations have increasingly been involved in refuse collection and disposal. The municipality, itself lacks enough staff and vehicles, for it collection in municipal estates and a small part of the Central Business District

Eade and Williams (1995) emphasize that sanitation is vital in primary health care. It further states that over 25 million people die every year from diseases related to inadequate and poor sanitation. Inadequate sanitation has been identified as the main cause of human illness. The most common diseases associated with poor sanitation are: diarrhea and dysentery, typhoid, bilharzia, malaria, cholera, worms, eye infection and skin diseases.

Contaminated water and poor hygiene are the major cause of diarrhea diseases, the most common group of communicable diseases, highly prevalent among poor people living in crowded conditions with inadequate facilities (Blacket, 2001).

The United Nations Habitat Report (1989) affirmed that a large proportion of the third world's urban population lives and works in very poor condition. Apart from the fact that the poor inhabit many different low quality forms of housing, there are two other basic environmental problems that are evidently noticeable. One is the presence of pathogens in the human environment due to lack of basic infrastructure and services. The second is crowded and cramped living conditions. The report shows that lack of infrastructures, readily available drinking water, sewerage facilities to dispose human wastes hygienically, garbage and refuse disposal facilities as well as lack of basic measure to prevent and provide primary health cares ensure that many debilitating and endemic among the urban poor holds. Such diseases include diarrhea, dysentery, typhoid, intestinal parasites and food poisoning.

One of the variables that the study addressed was loans majorly on low-income earners in Nakuru municipality. This was in view of their economically disadvantaged position, which makes adequacy of housing to be out of their reach. From the findings 11.9% who earned between 10000 and 20000 accessed loans. 24.1% depended on chamaas since they feared that

the interest rates were high. The findings showed that the loans they obtained were mainly for businesses and others pay school fees.

These findings agree with Erhard (1999) who had argued that at least three major reasons can be singled out for the inability of the majority of the population in developing countries to get access to loans. The reasons were absence of good collateral, informality and instability of income and lack of information about the borrowers. In light with these the residents could not go for mortgages since they could not afford them. This hindered accessibility of adequate housing among these low income earners.

The finding show majority of low-income earners reside in single units due to low educational achievement that cannot enable them to obtain high-income jobs. The findings showed more than half of the respondents' occupied single rooms. This is explained by the low-income earned and unstable sources of income. Those preferring single room were respondents with one or didn't have children at all. The single rooms ranged from Ksh. 650–1000 per month depending on the condition of the house.

In Kenya there is no coherent and up-to-date housing policy to guide development plans and programmes, particularly for the low-income earners. The government housing policy of 1968 sessional paper no. 6, the government's response to low income settlements has been frequent demolitions and seeking to build conventional housing units rather than assist the self-help process.

According to the building code, an acceptable house must have two rooms, a kitchen, a toilet and a shower and covering not less than 38.5 sq meters and built with conventional and durable materials. Despite this, current housing in urban areas is deplorable with most housing failing to meet minimum standards of durability, sanitation and space, particularly in low income residences.

#### **5.4 Conclusions**

This study showed that there was inadequacy of provision of housing to low income earners where by there was lack of basic social amenities leading to environmental problems and water and sanitation thus leading to health problems to the residents. They should be enlightened to put value for their money spent on housing and other services.

The municipal council should give incentives to residents to minimize waste production and generation among these low income earners and introduce waste reduction and increase recycling projects.

The improvement of incomes, infrastructure and housing conditions would reduce disease outbreaks and alleviate housing and environmental problems. The respondents need to be educated or made aware of the benefits of personal hygiene and environmental quality. They should be enlightened to value themselves and to achieve value for their money spent on housing and other services

The study made a conclusion that there was need to recognize informal waste collectors and integrate them in urban waste management. Separation of waste should be done at the household level and incentives to be introduced to minimize waste production and generation. Reducing waste and recycling should be integrated in urban settlement plans within municipal council housing and privately developed housing.

The study showed that access to loans will enhance chances of residents putting up houses that meet their needs and which are built in accordance to their economic status. This would bestow upon them a sense of actualization and satisfaction.

Based on the findings, it was concluded that adequacy of provision of housing among low income earners would be achieved by a combination of the basic infrastructures, appropriate environment and accessibility of loans.

## **5.6 Recommendations**

Based on the findings and the suggestions made about the study, the following recommendations were given to improve on adequacy of provision of housing;

The efforts of the Waste Management Authority should be well supported through adequate funding so that facilities for effective services to more areas can be enhanced. In the light of this, Local Government Authority should be called to their primary responsibility to ensure regular collection of refuse in these areas.

Meanwhile, public health officers would be needed to reawaken the unconcerned attitude of the residents towards sanitary laws and regulations. Inspections should be made without prior notice so that the people can always prepare to keep their surroundings clean at all times. Efforts should be made as well to ensure punitive measure on any culprit who violates such orders.

The government is therefore called upon to support the initial efforts Ministry of Environment in redeeming the sanitary image of the area. The assistance of international

bodies like UNICEF and the United Nations Centre for Human Settlements (HABITAT) is requested for an effective and enduring rehabilitation of the estates.

Creation of varying loan products to accommodate the low income earners. Such products need to be tailored to the general economic conditions so that some conditions for obtaining loans are relaxed but without necessarily increasing on the risk exposure for the financial institutions.

Respondent's suggestions to alleviate these problems were for council to build self contained units where by even there could be piped water in the houses for household use.

Remedies to low-income housing should include availability of land at affordable prices for all, availability of finances to construct houses through affordable and flexible loan services and decentralization of building materials to reduce costs. The use of soil blocks and prefabs should be accepted in constructing houses, particularly within the municipality.

Local Government Authority should be called to their primary responsibility to ensure regular collection of refuse in these areas.

### **5.7 Suggestions for further research**

The research was carried out in Nakuru Municipality and covered only the house units that are rented by the Municipal Council of Nakuru. It's important to research the situation in other municipalities in the country. Such research should target low incomer earners in slums as they were excluded from this study. Another target population is those renting houses that are not owned by the council.



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[www.unhabitat.org/](http://www.unhabitat.org/)

<http://www.shelterafrique.org>

[www.cohre.org](http://www.cohre.org)

## **APPENDICES**

### **APPENDIX 1: LETTER OF TRANSMITTAL**

**Nancy Moraa Omwenga**

**P.O. BOX 10455**

**Nakuru**

Dear Sir/Madam,

#### **RE: REQUEST TO FILL OUT QUESTIONNAIRE**

I am a student at the University of Nairobi pursuing a Masters of Arts degree in Project Planning and Management.

The requirement of the course is that students must undertake a research project during their course of the study. I have now been released to undertake the same and I am conducting a research factors affecting adequacy of provision of housing to low income earners in Nakuru Municipality.

You have been identified as a respondent because I believe you have useful information for my study. The information obtained will strictly be used for the purpose of the study and will be treated with confidentiality.

I am writing to request you to kindly fill in the questionnaires to the best of your ability.

Yours Faithfully,

Nancy Moraa Omwenga

## **APPENDIX 2: QUESTIONNAIRE**

The questionnaire is meant to collect information on factors affecting adequacy of housing provision to low income earners in Nakuru Municipality. Kindly answer the questions by writing a brief statement or ticking in the boxes provided as will be applicable. The information provided will be treated as strictly confidential and at no instance will your name be mentioned in this research. This research is intended for an academic purpose only.

### **HOUSEHOLD QUESTIONNAIRE**

#### **SECTION A**

##### **Bio-Data**

1. Gender: (1) Male [ ] (2) Female [ ]

2. Indicate your appropriate age bracket.

a) 18- 24 [ ]                      b) 25-29 [ ]

c) 30-34 [ ]                      d) 35-39 [ ]

e) 40-44 [ ]                      f) 45-49 [ ]

g) 50 yrs and above [ ]

3. Marital Status:

(1) Single [ ]

(2) Married [ ]

(3) Widowed [ ]

#### **SECTION B**

**Information on adequacy of provision of housing to low income earners**

**Sanitation**

7. (a) What type of toilet facility do you use?

(1) Flashing toilet [ ]

(2) Pit Latrine [ ]

(3) Other (Specify.....

(b) If pit latrine, what is the average number of people accessing the facility?

.....  
.....

(c) From you own words how did sanitation affect adequacy of provision of housing in your estate?

.....  
.....

**Water**

8. (a) What is the source of household water?

(1) Public well [ ]

(2) Public Tap [ ]

(3) Public borehole [ ]

(4) Tap in the house [ ]

(b) What is the frequency of getting water from the municipal supply?

|         |  |
|---------|--|
|         | Frequency (Indicate how many times you get water from<br>Municipal Council of Nakuru |
| Daily   |  |
| Weekly  |  |
| Monthly |  |

(c) Do you think water affected the adequacy of provision of housing in your estate?

.....

.....

**Environment**

9. (a) How is waste disposed?

(1) door- to-door [ ]

(2) Damping site [ ]

(3) By burning.

.....

(b)with the method of disposal used, what were the problems posed to your household?

.....

.....

(c)What are the common diseases of members of your household for the past six (6) months?

.....

.....

.....

(d) From your own view how did the environment affect adequacy of provision of housing?

.....

.....

.....

**Accessibility to Loans**

10. (a) Are you currently employed? (1)Yes [ ] (2) No [ ]

(b) What is your Average income daily?

.....

11. Have you ever applied for a loan from any financial institution?

(1) Yes [ ] (2) No [ ].

If yes, which financial institution?

.....

And were you successful

(1) Yes [ ] (2) No [ ].

If you were not successful, what were the reasons given?

.....

.....

From your own view how did loans affect adequacy of provision of housing?

.....

.....

.....



## **APPENDIX 3: LETTER OF RESEARCH AUTHOTIZATION**

## **APPENDIX 4: LETTER OF INTRODUCTION**

**APPENDIX 5: CAPACITIES OF HOUSING UNITS IN LOW INCOME ESTATES IN NAKURU MUNICIPALITY**

| <b>Estate/Settlements</b> | <b>Number of Units</b> | <b>Number of Residents</b> |
|---------------------------|------------------------|----------------------------|
| Kivumbini                 | 624                    | 3120                       |
| Shauri Yako               | 294                    | 1470                       |
| Kaloleni                  | 640                    | 3840                       |
| Flamingo                  | 2638                   | 15828                      |
| Kimathi                   | 456                    | 2964                       |
| Old Ojuka                 | 18                     | 126                        |
| Bondeni                   | 310                    | 1860                       |
| Lumumba                   | 192                    | 960                        |
| <b>Total</b>              | <b>5172</b>            | <b>30168</b>               |