

SOCIAL AND ECONOMIC IMPACTS OF INVOLUNTARY RESETTLEMENT DURING  
LARGE SCALE WATER INFRASTRUCTURE DEVELOPMENT:

THE CASE OF THIKA DAM

BY

SAKWA GODWIN LIDAHULI

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## DECLARATION

This research project is my original work and has not been presented for examination to any other university.

Signature \_\_\_\_\_

Date \_\_\_\_\_

**GODWIN SAKWA LIDAHULI**

**C50/79868/2012**

This research project has been submitted for examination with our approval as the University Supervisors.

Signature \_\_\_\_\_

Date \_\_\_\_\_

**SUPERVISOR: PROF. G. KRHODA**

Department of Geography and Environmental Studies

University of Nairobi

Signature \_\_\_\_\_

Date \_\_\_\_\_

**SUPERVISOR: DR. W. OGEMBO**

Department of Geography and Environmental Studies

University of Nairobi

## **DEDICATION**

This work is dedicated to my family, parents and Project Affected Persons of Thika Dam in Murang'a County.

## **ACKNOWLEDGEMENTS**

There are a number of people without whom this project might not have been written, and to whom I am greatly indebted. Mr. Francis Mwaura who acted as linkage between the research team and the community and Mr. Jude Kizito who was my research assistant.

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God bless you all.

## ABSTRACT

World Bank Environment Department's (WBED) estimates that roughly 10 million people are displaced each year due to infrastructure development construction. Although such projects can bring enormous benefits to countries, they also inflict social and economic costs, which are every so often borne by local citizens of the respective countries. Robinson (2003) points out that millions of people around the world have suffered due to development induced resettlement resulting to loss of assets and livelihood.

The purpose of the study was to determine the social and economic aspects associated with involuntary resettlement during construction of infrastructure projects. The study had four specific objectives, which were to; explore Thika Dam Project Affected Persons (PAPs) perception towards government procedures in regards to involuntary resettlement, assess whether the PAPs adequately participated in involuntary resettlement process, determine the social and economic impacts of involuntary resettlement inflicted to the PAPs and review the current coping mechanisms adopted by PAPs in an effort to address involuntary resettlement challenges.

The main sampling method adopted during the study was systematic random sampling procedure due to the fact the population size was small and finite. (Krejcie & Morgan, 1970) formula of determining sample size and sampling interval of known population was used to determine the sample size and sampling interval. The sample size was 169 respondents to be interviewed at an interval of 2, the respondents were evenly distributed within the five villages of Kimandi, Wanyaga, Ndakaini, Makomboki and Kimotho which formed the sample frame.

The research instruments that were used to collect data during the study included: structured and open ended questionnaires, direct observation and structured interviews and focused group discussions. Secondary data was obtained from Government publications such as economic surveys, population census reports, statistical reports, statistical abstracts and development plans. Analysis was done using both qualitative and quantitative methods and presented in form of tables, pie charts and graphs. Chi square test was used to test the null hypothesis at 0.05 confidence level.

The study found out that perception of the project affected persons regarding government resettlement process was negatively influenced by the way Nairobi City Commission (NCC) handled the resettlement process. 59% of the respondents argued that the compensation received was not commensurate to the assets acquired, 62% of the respondents rated the NCC poor in the manner it handled the resettlement process and only 12% of the respondents were satisfied with the process.

NCC made no effort to bring together all stakeholders that were relevant to the process the stakeholders included; local community members, civil societies, opinion leaders, church and relevant government institutions. Therefore the stakeholders were denied a platform where they could share their views and concerns regarding the entire resettlement process. 49% of the respondent argued that local affected persons did not participate in the process while 42% of the respondents were not sure whether participation happened only 8% of the respondents admitted that participation of the local affected persons in the process happened

Additionally, the main impact caused by resettlement process was loss and loss of livelihood. The loss negatively impacted on all the social and economic attributes namely; 86% of respondents suffered disruption in education, 88% suffered occupation disruptions, 88% had their business affected and all the respondents lost social networks and amenities including markets and worship centers.

The coping mechanisms adopted by the PAPs to address the resettlement challenges were unsuccessful. The majority of the PAPs continued with small scale farming as the main coping strategy in their new homes, others took loans to reestablish their businesses while others received support from friends, families and well wishers to reestablish their livelihoods.

The study therefore recommends that resettlement programs should be handled in a manner that ensures compensation is made at full replacement cost, this allows other associated post resettlement livelihoods restoration strategies that ensures PAPs re-establish after resettlement are included in the compensation package. Another recommendation of the study is to always involve PAPs and other relevant stakeholders in making decisions on resettlement matters, this provide a platform where the parties present their ideas and concerns to be included in the process and therefore assuring community goodwill to the project.

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## **LIST OF ABBREVIATIONS**

AfDB	African Development Bank
IDPs	Internally Displaced Persons
IDMC	Internal Displacement Monitoring Centre
IUCN	International Union for Conservation of Nature
IRRM	Impoverishment Risk and Reconstruction Model
NDEKA	Ndakaini Environment Conservation Group
NCC	Nairobi City Commission
NCWSC	Nairobi City Water and Sewerage Company
OP	Operation Policy
PAPs	Project Affected Persons
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
UNHCR	United Nations Commission on Human Refugees
WB	World Bank
WBED	World Bank Environment Department
WCD	World Commission on Dams

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## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background of the Study**

The World Bank Operation Policy 4.12 on Involuntary Resettlement defines Involuntary Resettlement as two distinct but related processes. The policy defines displacement as a process by which development projects cause people to lose land or other assets, or access to resources. This may result in physical dislocation, loss of income, or other adverse impacts. Resettlement or rehabilitation is defined as a process by which those adversely affected are assisted in their efforts to improve, or at least to restore, their incomes and living standards.

Involuntary resettlement is happening all over the world. The construction of dams, highways and urban areas and the extraction of natural resources are all projects that require land, and this is the reason why people are being moved. According to (Maldonado, 2012) every year 15 million people around the world become impoverished due to public and private development projects. It is estimated that during the last two decades approximately 250-300 million people across the world have been relocated. India and China have by far the highest numbers of development-induced resettlement in the world. India has resettled more than 60 million people between 1950 and 2008, while China has resettled 70 million in the same time period (Maldonado 2012, p. 194).

For over five decades, social scientists have investigated the destruction of lives and livelihoods inflicted on communities by development-caused forced displacement and resettlement. They have also analyzed the underlying drivers that shape the current development paradigm that has a tunnel-vision focus on economic growth, views the world as an infinite resource and de-couples humans and the environment. (Maldonado, 2012, p. 194).

After an unsuccessful resettlement project in a World Bank-financed dam project in Brazil in 1978, Cernea formulated the first guidelines on how to avoid resettlement-induced impoverishment in the future. These guidelines have become a significant tool for the World Bank policy makers and project planners, the guidelines were revised in 1986, 1990 and 2000.

He is the founder of the Impoverishment Risk and Reconstruction Model (IRRM) which is the foundation behind the World Bank policies and is also part of the African Development Bank's guidelines, this research was based on the IRRM model.

Findings from this research will enable institutions undertaking resettlement programs learn from experience of Thika dam and therefore understand how to better to handle issues related to involuntary resettlement during development of government infrastructure projects. The findings will also enable the policy makers make the necessary amendments to the proposed Way leave Act and Eviction and Resettlement Bill (2014) that is yet to be passed into law.

## **1.2 Statement of the Problem**

In Kenya in 1989, Nairobi City Council (NCC) embarked a major water supply project called “The Third Nairobi Water Supply Project” of which construction of Thika Dam was a major component. The dam has a heightg of 63m with 450m crest length and an average storage capacity of 70million cubic meters of water, the production capacity of the dam is 430,000 cubic meters of water per day. The dam is located in Gatanga Constituency about 40 km away from Thika Town and it is adjacent to the Ndaka-ini shopping centre. Raw water from the dam is conveyed through underground tunnels to Kiama River through Kimakia river up to Chania River from where its collected for treatment at Ngethu treatment works before subsequent transmission to Nairobi Gigiri reservoir tanks for distribution.

The project was in 14 components, the main one being contract C208 for construction of the Thika Dam at Ndakaini. Other components included the tunneling, construction of the intakes and building of access roads, the construction of pipelines to Nge'thu water treatment plant to the Gigiri reservoir tank, and other three reservoirs like Kiambu, Kasarani and Wilson Airport. Being one of the biggest water projects ever undertaken, it was expected to increase the available water yields from 203,500 m<sup>3</sup> per day in 1989 to 460,000 m<sup>3</sup> per day, which was to be enough to meet the City of Nairobi's growing water needs well into the next millennium up to the year 2005 (Syagga & Olima 1996).

Land was mainly required for the construction of a dam reservoir for a water volume capacity of 70 million M<sup>3</sup>. The land requirement for the dam was some 450 ha acquired at a cost of Kshs. 127 million (US \$ 2.1 million). The land was previously owned by small-scale farmers and hence the task involved the displacement and relocation of some 300 households (Syagga and Olima, 1996). The acquisition of land for the purpose of constructing the Thika Dam was carried out under the principal legislation, the Land Acquisition Act, 1968, Section 6, which empowers the Minister for Lands to acquire land compulsorily if he/she is satisfied that such acquisition, inter alia, will promote public benefit (Government of Kenya, 1968). The

research therefore focused on evaluating social and economic impacts which the 300 project affected persons encountered during the involuntary resettlement process.

### **1.3 Research Questions**

- 1 How do Thika Dam PAPs perceive government procedures on involuntary resettlement during construction of government projects
- 2 Did the Thika Dam PAPs adequately participate in the involuntary resettlement process, and if at all, how?
- 3 How has involuntary resettlement impacted on the socio economic status of the Thika Dam PAPs with focus on land, Livelihood and access to common community property resources?
- 4 What are the current coping mechanisms adopted by Thika Dam PAPs to address challenges brought by involuntary resettlement

### **1.4 Research Objectives**

- 1 To explore Thika Dam PAPs perception of government procedures in regards to involuntary resettlement during implementation of government projects.
- 2 To assess whether Thika Dam PAPs adequately participated in involuntary resettlement process during land acquisition process prior to construction of Thika Dam
- 3 To determine the social and economic impacts of involuntary resettlement to Thika Dam PAPs with specific focus land, Livelihood and access to common community property resource
- 4 To review the current coping mechanisms adopted by Thika Dam PAPs in an effort to address involuntary resettlement challenges.

### **1.5 Hypotheses**

The hypotheses adopted for the study were:

- 1 H<sub>0</sub>: The government involuntary resettlement of Thika Dam PAPs did not influence their perception in regards to government's involuntary resettlement procedures.
- 2 H<sub>0</sub>: Thika Dam PAPs did not significantly participate in the involuntary resettlement process during construction of Thika dam
- 3 H<sub>0</sub>:The current socio-economic status of Thika Dam PAPs is not significantly related to the involuntary resettlement that was conducted during construction of Thika Dam

- 4 H<sub>0</sub>: Coping mechanisms adopted by Thika Dam PAPs to address challenges of involuntary resettlement were unsuccessful.

## **1.6 Justification of the Study**

Infrastructure projects that trigger resettlement of people are supposed to have a Resettlement Policy Framework (RPF) prepared before approval and commencement of the project. The framework estimates the total number of persons likely to be displaced by a project including losses and an estimate of the compensations and restoration costs through preparation on a project specific Resettlement Action Plan (RAP) (World Bank Operation policy OP 4.12 December 2001).

Thika Dam was financed by the World Bank, African Development Bank (AfDB), European Investment Bank and the Kenya Government among others. The estimated total cost of the project was Ksh. 2 Billion at that time in 1989. Literature review indicates that no Resettlement Policy Framework and Resettlement Action Plan were prepared for the project. This therefore implies that there is high likelihood that the project affected persons for the entire project components were disadvantaged and their livelihoods disrupted as no environmental and social safeguard mechanism was initiated by NCC to safeguard the affected persons.

## **1.7 Scope and Limitation**

### **1.7.1 Study Scope**

Involuntary resettlement is a holist process which includes various approach and analysis, the process involves; an analysis of legal framework under which the process was undertaken; analysis of social and economic profile of the PAPs before and after process with the intention of post evaluation of project impacts to affected persons; stakeholder consultation forums during the process; analysis of resettlement impacts; census survey and inventory of assets likely to be affected; valuation and budget for compensating PAPs at full replacement cost; RAP implementation and organisation responsibilities and monitoring and evaluation component.

However, the research focused on only on social economic impacts caused by the involuntary resettlement to 300 families during construction of Thika Dam who are the project affected persons. The respondents were selected from PAPs who did not relocate far from the dam site



and settled within the five villages' surrounding the dam, the villages are Kimandi, Wanyaga, Ndakaini, Makomboki and Kimotho.

### **1.7.2 Study Limitations**

Socio economic status of a community is impacted by many factors which might not be all related to involuntary resettlement, however under such circumstances, PAPs might tend to link all their socio economic issues to the resettlement that was conducted in 1989 during construction of the dam, this might not be the true picture.

Majority of the Project Affected person could have passed on due to old age considering that the dam was constructed 26 years ago when they were in their youthful stage, therefore we shall relay on information that will be provided by their respective siblings who were young at the time of actual relocation, these information might not be accurate.

Time limitation is anticipated due to the fact that the persons who were teenagers during the construction of the dam in 1989 are now elderly people who will need to be guided and interpreted during questionnaire administration this is anticipated to waste a lot of time during field work. Majority of Project Affected Person might have relocated to far areas and tracing them during the study is not feasible, also it will not be possible to determine a true PAPs from a false PAP during interview as no identification was given by the government then during the compulsory acquisition of the land

## 1.8 Description of the Study Area

### 1.8.1 Location

Ndakaini Dam is located approximately 85 kilometers north east of the capital city of Nairobi and 40km from Thika Town, the dam is located within Murang'a County at Ndakaini market centre. The dam catchment area expands to approximately 2,558 square kilometers at latitude 0.7167 (0o43"0) and longitude 37.1500 (37o8"60E) at an average altitude of 4,120ft (1,255m) above sea level.

Murang'a County borders Nyandarua County to the West, Embu County to the East, Nyeri County to the North and Kiambu Count to the South while Machakos and Kirinyaga counties lie further to the Southeast and the Northeast respectively. The county has a total human population of approximately 942,581 which translates into a human density of 524 people/km<sup>2</sup> as per the 2009 census report by the Kenya National Bureau of Statistics. The county is accessible mainly by road, as well as the old railway line serving key town centres.

The county is home to notable geographical features because of the expansive Aberdare forest ecosystem which offer major tourist attraction features, the forest is also one of the major Kenya's water towers supplying approximately 55% of the water in Nairobi and also home to varied species of fauna and flora, the most common wildlife in the forest are the elephants.

Ndakaini market centre is surrounded by five villages which formed the sampling frame for the study, the villages are, Ndakaini, Wanyaga, Kimandi, Makomboki and Kimotho. The total population of the study area covered by the five villages is approximately 25,992 persons occupying an approximate area of 107.07 square kilometers; this is as summarized in table 1-1 below

**Table 1.1 Population Distribution of the study area**

No.	Sub Location	Population (2009 census)	Area in square Kilometers
1	Ndakaini	2,444	8.5
2	Makomboki	8,295	42.5
3	Kamandi	3,479	9.17
4	Wanyaga	6,295	12.7
5	Kimotho	5,479	34.2
		<b>25,992</b>	<b>107.07</b>

*Source: Republic of Kenya population and housing Census, 2010*



### **1.8.2 Climate**

Ndakaini area climate is characterized by mist and rain that occur throughout much of the year, with precipitation varying from around 1000mm yearly on the north western slopes to as much as 3000mm in the south east, heavy rainfall occurs through most of the year. The upper sub-catchment which lies within the Aberdare escarpment forest comprises the humid zone, the middle sub-catchment comprises of the sub-humid and semi-humid zone which provides agricultural land where small-scale agricultural activities are undertaken



Climate is often considered to be the driving factor for stream flow, and it is spatially and seasonally variable in the basins. The climate of the study area is heavily influenced by its geographical location and altitude relative to the Aberdare ranges and the equator. The area falls within the equatorial trough of the Intercontinental convergence zone (I.T.C.Z), with a low pressure cell within the south easterly and the north easterly trade winds converge, but due to the local differences in elevations the climate is modified to a “modified equatorial climate”. This climate is much cooler than the general tropical continental climate or highland subtropical climate.

### **1.8.3 Soils and Geology**

The geology of Ndakaini area is composed of pyroclastic rocks with minor intercalations of basalts all of Pliocene to Lower Pleistocene Age, rock exposures are found at river beds in deeply incised valleys. The geomorphology of project area consists of a highly dissected platform with narrow ridges separated by deep valleys and sometimes gorges. The landscape has a general slope towards the south-east, which also the direction of the drainage system.

Typical tropic red soils (Latosols) are located in the mountain areas at high altitudes. They have high clay content, a thin, but fertile, humus layer and a distinct aggregate structure. These characteristics make them resistant to soil erosion. The soils of the gentle to sloping slopes of the middle and low altitudes are covered by light red soils. There are also a lot of patches of grey soils (Gleysols, "vlei soils"). Shallow, stony soils are located on the steep slopes around the channels. The flat areas are swampy during rainy seasons; soil erosion and mass movement are one of the major problems in the catchment.

### Photo Plate 1-2 Terrain and Soil Characteristic

	
Sloppy topography prone to land slides	Soil characteristic (tropical red soils with high clay )

#### 1.8.4 Hydrology and Hydro-geological characteristic

The dam is located within the Thika river catchment regions which exhibit humid to semi-humid agro-climatic zones of Kenya. Thika river systems occur in the upper Tana river basin which originates from the eastern slopes of the eastern Aberdare escarpment, the river drains into Chania River at the confluence of Thika river and Chania river at Thika Blue Post Hotel off the Thika Super Highway.

#### 1.8.5 Land Tenure

Land tenure is majorly freehold, land near the urban centre's has been subdivided in plots while land size away from the urban centres averaged between 1 to 5acres. Land is owned predominantly by men. Majority of the title deeds are registered jointly under the extended family name making it a challenge to identify who owns which section of land and by what acreage

#### 1.8.6 Economic Activities

The Economic activities people in the area are engaged in is tea farming on both small scale basis for locals and large scale basis for companies, the tea is commonly sold to local tea companies for processing. Dairy farming is also another popular source of livelihood to residents of Ndakaini, dairy farming is practiced on zero grazing basis and isolated cases of free range. Food crops farming and cultivation of fodder for the livestock is also practiced on subsistence basis.

The main market in the area is the Ndakaini Market which operates daily with official market days on Tuesdays and Thursdays. This is where the residents bring their farm produce to sell. The market has also a number of local hotels which double up as tourist places for visitors who come to view the dam.

Ndakaini is also home to the annual Ndakaini Half Marathon which is sponsored by UAP insurance through the local environment conservation group in the area called NDEKA, the marathon main objective is to contribute money required for the conservation of the Ndakaini dam catchment and also market Ndakaini and a major tourism destination.

### **1.9 Operational Definition of Terms and Concepts**

**Project-Affected Area:** An area, which is subject to a change in use as a result of the construction or operation of the Project.

**Project-Affected Person (PAP):** Any person who, as a result of the implementation of the Project, loses the right to own, use, or otherwise benefit from a built structure, land (residential, agricultural, or pasture), annual or perennial crops and trees, or any other fixed or moveable asset, either in full or in part, permanently or temporarily. PAPs may include:

- Physically Displaced People, i.e. people subject to Physical Displacement as defined hereunder,
- Economically Displaced People, i.e. people subject to Economic Displacement as defined hereunder.

**Physical Displacement:** Loss of shelter and assets resulting from the acquisition of land associated with the Project that requires the affected person(s) to move to another location.

**Compensation:** Payment in cash or in-kind at replacement value for an asset or a resource that is acquired or affected by the Project at the time the assets need to be replaced. In this RAP, “cash compensation” means compensation paid in cash or by cheque.

**Resettlement Assistance:** Support provided to people who are physically displaced by the Project. Assistance may include transportation, and social or other services that are provided to affected people during their relocation. Assistance may also include cash allowances that compensate affected people for the inconvenience associated with resettlement and defray the expenses of a transition to a new locale, such as moving expenses and lost work days.

**Vulnerable Groups:** People who by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage, or social status may be more adversely affected by

resettlement than others and who may be limited in their ability to claim or take advantage of resettlement assistance and related development benefits.

**Census:** means a field survey carried out to identify and determine the number of Project Affected Persons (PAP) or Displaced Persons (DPs) as a result of land acquisition and related impacts. The census provides the basic information necessary for determining eligibility for compensation, resettlement and other measures emanating from consultations with affected communities and the relevant stakeholders.

**Rehabilitation Assistance:** means the provision of development assistance in addition to compensation such as land preparation, credit facilities, training, or job opportunities, needed to enable the program Affected Persons and Displaced Persons to improve their living standards, income earning capacity and production levels; or at least maintain them at pre-program levels.

**Resettlement and Compensation Plan:** also known as a “Resettlement Action Plan (RAP)” or “Resettlement Plan” - is a resettlement instrument (document) to be prepared when program locations are identified. In such cases, land acquisition leads to physical displacement of persons, and/or loss of shelter, and /or loss of livelihoods and/or loss, denial or restriction of access to economic resources. RAPs are prepared by the party impacting on the people and their livelihoods. RAPs contain specific and legal binding requirements to resettle and compensate the affected party before implementation of the program activities commences.

**Replacement cost:** means replacement of assets with an amount sufficient to cover full cost of lost assets and related transaction costs.

**Involuntary resettlement**—Resettlement is involuntary when it occurs without the informed consent of the displaced persons or if they give their consent without having the power to refuse resettlement

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Global Overview of Resettlement Programmes**

No precise data exists on the numbers of persons affected by development-induced displacement throughout the world. Unlike refugees and internally displaced persons (IDPs), there are no institutions or publications dedicated to tracking overall socio economic impacts associated with involuntary resettlement, either at the global or national levels. For an indication of the magnitude, most scholars, policy-makers, and activists rely on the World Bank Environment Department's (WBED) which estimate that roughly 10 million people are displaced each year due to dam construction, urban development, transportation and infrastructure programs.

This number is shockingly high, but it still fails to account for large numbers of the displaced. Displacement always refer only to persons physically ousted from legally acquired land in order to make way for the planned project, ignoring those living in the vicinity of or downstream of the project area whose livelihoods and socio-cultural setting might be adversely affected by the project.

A count that considers this wider conception of development-induced displacement would be much higher than the WBED's estimate. Furthermore, the global count of displacements would increase with a consideration of displacement stemming from development projects other than those included in the WBED's count, such as natural resource extraction projects.

While no statistics are available on the geographical distribution of development project affected persons, trends can be referred to the WBED reports on involuntary resettlement experience during construction of infrastructure projects. Table 2-1 overleaf is composed of data from the WBED reports and gives a regional breakdown of World Bank projects active in the years 1993 that had resettlement components. It is worth keeping in mind that displacement in Bank-assisted projects accounts for only a small fraction of the estimated global total and about 3 per cent of global dam displacement, and 1 per cent of global displacement from urban and transportation projects



**Table 2-1. World Bank Projects and Resettlement (1993)**

<b>Region</b>	<b>Projects</b>	<b>Percentage</b>	<b>Displaced Persons</b>	<b>Percentage</b>
Africa	34	23.3	113,000	5.8
South Asia	29	19.9	1,024,000	52.1
East Asia	58	39.7	588,000	30.0
Europe/Central Asia	5	3.4	27,000	1.4
Middle East/North Africa	7	4.8	32,000	1.6
Latin America	13	8.9	180,000	9.1
Total World Bank	146	100	1,963,000	100
Africa	34	23.3	113,000	5.8

(Source: WBED, 1996)

In China, for instance, more than 10 million people were involuntarily resettled over a period of thirty years as a result of dam construction alone. In India, the aggregate numbers of displaced persons are of comparable magnitude about 15.5 million people over the last four decades, including displacement from reservoirs, urban sites, thermal plants and mines.

Two dams now on the Krishna River in Karnataka state the Almatti Dam and the Narayanpur Dam deprived over 240,000 people of either their homes, or their land, or of both. The highly controversial Narmada Sardar Sarovar Dam, together with its network of downstream irrigation canals and roads, affected the land and/or houses of approximately 220,000 people. There are also massive dam-induced resettlement programs now being implemented in Argentina and Paraguay (Yacyreta) and other Latin American countries (WBED, 1996)

**Table 2-2. Major Dams Outside Africa: Population Displacement by 1994**

Dam	Country	Population displaced
Sanmenxia	China	319,000
Dongpinghu	China	278,000
Danjiangkou	China	383,000
Srisaïlam	India	100,000
Mangla	Pakistan	90,000
Cirata	Indonesia	50,000
Sobradinho	Brazil	60,000
Portile de Fier	Romania/Yugoslavia	23,000
Assad	Syria	60,000
Almatti	India	160,000
Itaparica	Brazil	45,000
Tehri	India	105,000
Narmada Sardar Sarovar	India	220,000*
Shuikou	China	70,000
Yacyreta	Argentina and Paraguay	45,000
Three Gorges	China	0.9 — 1.2 mil.
Gandhi Sagar	India	100,000
Kalabagh	Pakistan	80,000
Karnali (Chisapani)	Nepal	55,000
San Juan Tetelecingo	Mexico	22,000
Xiaolangdi	China	181,000

Source : ( Cook, 1994)

## 2.2 Resettlement Programmes in African Context

Resettlement programmes in Africa first became an issue when the international development banks became involved in financing major hydropower projects in Africa such as the Kariba Dam in Zambia and Zimbabwe, the Akosombo Dam in Ghana, and the Kainji Dam in Nigeria. However, at this stage the Bank's regarded project related resettlement as the borrower's problem and did not take any action to assist the affected people.

Independent research on the resettlement programs associated with these projects identified a number of problems, including inadequate advance planning, inappropriately designed projects, inadequate provision to meet food needs, conflicts with host populations, lack of access to productive resources, serious health problems, social disruption, loss of confidence in local political systems, and development of a "dependency" syndrome. Many of these problems can be traced to projects' failure to involve the affected people in planning for resettlement.

In many of the cases studied, resettlement was not identified as an issue until well into project

implementation. In other cases where adequate baseline studies were conducted during project preparation, either no provision was made for monitoring and evaluation of impacts on the project affected population and physical environment. In a few cases, funds intended for monitoring and evaluation were diverted to other project purposes during implementation. There seems to be a reluctance on the part of project authorities to support research that might tend to show the project as failing to achieve its objectives, or as having unanticipated negative external effects.

The impacts of involuntary resettlement caused by on Gwembe and Tonga community caused due to construction of Kariba dam are analyzed by (Colson, 1971) and also the WCD case study by Chalo Environmental and Sustainable Development Consultants (2000), approximately 57,000 people were displaced.

Aswan High Dam Project in Egypt also displaced close to 100,000 people in Egypt and Sudan (Fahim, 1981). Beyond the dam's reservoir inundated the summer resources previously used by nomadic groups in the Nubian region, the population of which numbered in the thousands, resettlement and compensation schemes failed to include these displacement in the compensation programme.

Ghana's Akosombo Dam Project on the Volta River, displaced 80,000 people, the project has been closely examined by a number of researchers. The volume provides an in-depth examination of the project's resettlement component. (Obusu, 1996), based on primary fieldwork carried out in the early 1990s, discusses the factors that led to resettlement failure in the project. (Hart, 1980) offers a wider look at the history and politics behind the project since 1952 when the resettlement program began, his study was completed and published prior to the completion of the Volta River resettlement operations in the hope that its findings could be of use to resettlement planners.

A Case Study of Involuntary Resettlement in the South to North Water Transfer Project in Henan China (Lindalen, 2012) argues that the PAPs were given new housings of a good quality, however most PAPs lost land, which is a risk of impoverishment. The thesis also showed that there was a direct link between the distances relocated and whether or not the PAPs felt that their life had changed.

Towards Sustainability of Vietnam’s Large Dams Resettlement in Hydropower Projects as discussed by (Yen, 2003) concludes that, from experiences and lessons learnt from successes and problems of the construction of large dams in the past in Vietnam and in the world, it is necessary to ensure that the resettlement process should be considered carefully, detailed and timely in all its phases of Moving, Compensation and Restoration including Transitional time. The construction of dams should not only meet the energy demand, mitigate water related disasters, serve socio economic development of the nation but also minimize the possible negative impacts for resettled communities and environment.

An examination of the Impacts of Involuntary Resettlement on the lives of Basotho People, the case of Lesotho Highlands Water Project Lesotho by (Sephula, 2011) argues that there is a need to engage all the stakeholders affected by involuntary resettlement through a transparent public participation process; consider more sustainable means of livelihoods; furnish PAPs with information on the options to enable them to make informed decisions; fulfill promises in order to build trust with the PAPs.

The aftermaths of involuntary resettlement of people in Naminya village as assessed by (Nampungu, 2011) during construction of Bujagali Hydropower Dam concludes that the PAPs livelihoods had worsened since the relocation as they lost land and jobs mainly fishing since they were banned by the government from fishing near the dam, lost social and family ties, lost common property such as the lake, forest and shrines

**Table 2-3 Major Dams within Africa: Population Displacement**

<b>Dam</b>	<b>Country</b>	<b>Persons Displaced</b>
Akosombo	Ghana	84,000
Aswan High Dam	Egypt	100,000
Kainji	Nigeria	50,000
Kariba	Zambia/Zimbabwe	67,000
Kossou	Côte d'Ivoire	85,000
Kiambere Hydro power plant	Kenya	7,000
Dadin Kowa	Nigeria	26,000
Manantali	Senegal	11,000
Kiri	Nigeria	19,000
Dadin Kowa	Nigeria	26,000
Manantali	Senegal	11,000
Third Nairobi Water Supply (Thika Dam and pipeline )	Kenya	800

*Source: Based on rounded data from project documents and public sources*

### **2.3 Resettlement Programmes in Kenyan Context**

Resettlement programmes in Kenya started during colonial period, Kenyan farmland had been taken over by white settlers. In 1962 the British government financed a resettlement programme to resettle over 25,000 African families who were homeless and unemployed. By the year 1969 to 1970, Kenyan farmland was still in two categories namely white highlands for the European and small farms for the African reserves, during the same year 2,690,000 Ha of land was divided into 3,175 large farms while 2,646,000 was divided in 770,000 small farmers for small African farmers. This process triggered loss of land by many African farmers who ended up becoming squatters (Harbeson, 1971).

(Killop, 2002) compares Kenya to Sri Lanka in terms of serious and worsening problems of internal displacement, which are linked in part to a history of poor settlement and resettlement policies, as well as colonial re-organization and centralization of control over land rights favored white settlements and plantations. The injustices can be linked to Mau Mau insurgency, violence and further dislocations.

The displacements have over the years pushed both post-independence governments in Kenya continue the policy of promoting settlement schemes, many ostensibly for the landless. This has resulted in a history of continued deep problems in Kenya linked to past settlement schemes. Some examples include Mt. Elgon (Chebeyuk settlement scheme) and Mau Forest (Mauche settlement scheme) and more recently the resettlement of those displaced from post-election violence through "Operation Rudi Nyumbani. Killop (2002) points out various ways of addressing these injustices through institutional structures which should be explored to enhance cooperation between the Kenya National Commission on Human Rights, Ministry of State for Special Programmes and other key ministries such as Lands, Justice and local authorities.

Kenya is currently host over 492,046 Somali refugees in both Kakuma and Dadaab camps located in Northern Kenya, in 2011 over 100,000 new refugees flooded the camps due to combined effects in Somalia ranging from drought and famine and insecurity. On June 5 2013, the Kenyan and Somali governments together with UNHCR announced an agreement on voluntary repatriation for Somali refugees in Kenya through resettlement. The resettlement programme has been complicated by growing insecurity in the camp and difficulties in accessing the refugee's population living within the camp and long resettlement process (Westerby, 2013).

Kenya's post-election violence has displaced more than 664,000 persons within the country the displacement has been periodic since 1992, 1997, 2002, 2005 during referendum. Major displacement induced by post election violence occurred in December 2007. The regions that were severely affected according to a survey by a Non Governmental Organization called PeaceNet were the Rift Valley and Naivasha. Although violence-induced displacement is not a new phenomenon in Kenya, the magnitude, speed and intensity of the 2007 post election violence displacement were unprecedented. Clashes in the 1990s, also around general elections, displaced hundreds of thousands of Kenyans, many of whom remain displaced today (Kamungi, 2013).

**Table 2-4 Geographical distribution of IDPs following Post Election Violence**

<b>Province</b>	<b>Number of Camps</b>	<b>Number of Households</b>
Nyanza	35	118,547
Western	15	58,000
Rift Valley	234	408,631
Central	20	46,000
Eastern		6,769
Coast		4,774
North Eastern		148
Nairobi	14	20

*Source: Kamungi 2013*

Evictions by various land owners to make way for development and environmental protection projects have displaced significant numbers of people over the years, but there has been little contingency planning in terms of humanitarian assistance for such IDPs or support for durable solutions” (IDMC, 2012).

There have been a number of reports concerning forced evictions, especially in forest areas where the Government contends that the evictions were for the conservation of the environment. Such forced evictions have been taking place in Nairobi and different parts of the country. Over the years, over 50,000 people have been displaced from their homes within the country due to forced eviction (Kamungi, 2013).

**Table 2.5 Displacement Resulting from Eviction from Protected Land**

Name of Forest	Number of Household Evictions
Mau	3,036
Embobut	2,874
Kieni	805
Tident	392

Source: Kamungi 2013

**Table 2.6 Displacement Resulting from Eviction from Informal Settlements**

Date of Eviction	Number of Household Evictions	Informal Settlement
February 2004	1,000–2,000 people	Raila Village, Kibera
July 2005	140 people	Kibagare Settlement
September 2005	850 families	Deep Sea Settlement
August 2006	1,200 people	Molaa Village, Donholm
September 2006	600 families	Komora
March 2007	Tens of families	Roadside traders Waiyaki Way
July 2007	More than 100 people	Traders along Madaraka/ and langata Road
July 2007	Over 1000 families	Mukuru
August 2009	5000 people	Mukuru Kwa Njenga
August 2009	100 homes + 450 market stalls	Kabete NITD
September 2010	Tens of traders	Muthurwa Market
December 2010	2000 people	KPA slums

Source: Metcalfe et al., 2011.

Large infrastructure developments also result to involuntary resettlement of persons from their homes, (Mburugu, 1988) discusses the issues related to involuntary resettlement in his work on Kiambere Hdoro power Plant, he argues that in creating dams for hydropower, relatively few people were affected except in the recent case of the Kiambere project, where a larger number of families was displaced. 1,000 families were displaced from the areas now flooded by Masinga and Kamburu Dams, the two largest dams in Kenya. At Kiambere, an estimated 737 households with a population of 6,500 people were displaced. Consistent with the policy in Kenya, the displaced people were given cash compensation to enable them to buy land and resettle in the surrounding area, or in any other place of their choice.

Development Induced Resettlement programmes have been undergoing within the country in many development sectors, resettlement programs are necessitated by the need to provide land

for construction of infrastructure projects, this often result to relocation of people who have encroached on the road reserves, way leaves and government riparian land.

Kenya Informal Settlements Improvement Project (KISIP) is an example of a government financed project with the objective of improving infrastructure in the informal settlements across the county, to date the project has displaced over 1000 project affected persons. However, resettlement in this context has been done in an organized manner where RAP has been prepared and eligible PAPs adequately compensated for both loss of assets and livelihood. Therefore, comparing development induced resettlement to war and forced eviction induced resettlement, the magnitude of impacts are more severe in war or forced eviction because the affected parties in the latter end up as impoverished as no safeguard mechanisms are normally developed to mitigate against the impacts of resettlement.

## **2.4 Instruments Addressing Involuntary Resettlement**

### **2.4.1. World Bank Policy on Involuntary Resettlement**

The World Bank is one of the international funders of development projects such as dams that have resulted in involuntary displacements and relocations without adequate compensations or resettlement assistance of the affected people across the world. Due to prolonged negative publicity and criticism of the Bank's failure to intervene on behalf of the displaced peoples, the World Bank initiated the process to develop its own policy and procedures for involuntary resettlement to address the plight of millions of people around the world whose homes are destroyed or livelihoods adversely affected as a result of Bank-financed projects (Don and Frauke, 2001).

The current version, Operational policy (OP) 4.12 remains the most widely used guideline for any project involving involuntary resettlement. According to the World Bank any bank-financed project that involves land acquisition should be reviewed for potential resettlement requirements early in the project cycle. The World Bank Resettlement Policy emphasizes that project planning must avoid and minimize involuntary resettlement, and that if people lose their homes or livelihoods as a result of Bank-financed projects, they should have their standard of living improved, or at least restored. In determining appropriate compensation for the PAPs, the directive states that preference should be land-based resettlement as opposed to cash compensation, which is usually inadequate to restore previous livelihoods (Don and Frauke, 2001).



#### **2.4.2 The World Commission on Dams Guidelines for Good Practice**

The World Bank, International Union for Conservation of Nature and World Conservation Union established the World Commission on Dams on May 1998 in response to the growing opposition to large dams. It was launched on 16th November 2000. The report covers issues related to the economic and biophysical impact of dams, experience of displaced people and their resettlement and compensation (WCD, 2000). The report also recommends a set of guidelines for good practice, which encompass how to plan and implement an involuntary resettlement. According to the WCD, successful resettlement relies upon supporting national legislation and development policies, as well as accountability and commitment from governments and project developers (WCD, 2000)

#### **2.4.3 African Development Bank Policy on Involuntary Resettlement**

The policy was adopted in November 2003 to cover involuntary displacement and resettlement of people caused by a Bank financed project and it applies when a project results in relocation or loss of shelter by the persons residing in the project area, assets being lost or livelihoods being affected.

The policy is set within the framework of the Bank's Vision in which poverty reduction represents the overarching goal. Within this goal, the strategic action to achieve sustainable development will be pursued. It reaffirms therefore the commitment of the Bank to promote environmental and social mainstreaming as a means of fostering poverty reduction, economic development and social well being in Africa. It is therefore meant to assist the Bank and borrowers to address resettlement issues in order to mitigate the negative impacts of displacement and resettlement and establish sustainable economy and society.

#### **2.4.4 Constitution of Kenya 2010**

Constitution of Kenya 2010 recognizes individuals' right to acquire and own property provided they are citizens of the country in article 40. However, Article 66 of the same Constitution provides for the State to regulate the manner in which these rights may be curtailed for the benefit of the general public. Through the National Lands Commission, whenever the government requires land to construct a project for public benefits then Article 47 of the Constitution is applied which applies administrative action to override the individual rights but the victim has to be given written reason for the action taken that

undermines the right. This article is interpreted together with the Land Act 2012 which provides the legal framework of administering land in Kenya.

#### **2.4.5 The Land Act 2012 Laws of Kenya**

It is the substantive law governing land in Kenya and provides legal regime over administration of public and private lands. It also provides for the acquisition of land for public benefit. The government has the powers under this Act to acquire land for projects, which are intended to benefit the general public. The projects requiring resettlement are under the provision of this Act, however, during construction of Thika Dam the Land Acquisition Act, 1968, Section 6, which empowers the Minister for Lands to acquire land compulsorily if he/she is satisfied that such acquisition, inter alia, will promote public benefit (Government of Kenya, 1968) was applied.

#### **2.4.6 National Land Commission Act 2012**

The act establishes the National Land Commission with the purpose of managing public land and carrying out compulsory acquisition of land for specified public purposes. In the current context, land acquisition for construction of public projects are now managed by the commission with the Land Act 2012 providing guidelines and principles as well as legal interpretation on land acquisition matters

#### **2.4.7 Eviction Way leave and Rehabilitation Bill (2014)**

Once passed by the parliament, it will be an Act of Parliament to provide for procedures for the evictions of unauthorized occupants from private or public land and the resettlement of displaced persons coerced or involuntary displacement and for matters incidental and related thereto.

The Bill main objective is to set out appropriate procedures applicable to evictions and resettlement, the bill also has outlined principles that are intended to guide the resettlement and eviction procedures including;

- i. Every person shall be protected from arbitrary eviction;
- ii. the persons, affected by an eviction should not suffer detriment to their human rights;
- iii. the State while carrying out eviction and resettlement, must observe the human dignity, equity, social justice, human rights, non discrimination and protection of

- the marginalized and vulnerable groups; and
- iv. every person has the right to administrative action that is expeditious, efficient, reasonable and procedurally fair

Part (111) section (17) of the bill elaborates of the process to be undertaken when the government intends to evict persons from their land to create room for project, the bill gives power to the cabinet secretary based on the Environmental and Social Impact Assessment Report prepared, prepare a plan for the resettlement of the affected persons after consultation with the representatives of the affected persons

#### **2.4.8 National Policies on Resettlement**

In Kenya, Resettlement Policies are often developed specific for projects in different sectors, the policies provide guideline to be adopted when implementing project that trigger resettlement of people from their homes or business to provide land for implementation of the projects. The policies have enabled the project implementing agencies to prepare in advance environment and social Safeguard measures that mitigate against the risk associated with project induced involuntary resettlement. The discussion of below provide samples of project specific policies in the informal settlements, forestry and energy sector are discussed below

Kenya forest Services (KSF) has a Resettlement Policy Framework (RPF) Developed in 2007 and updated in 2011, the policy was developed under the Natural Resource Management Project (NRMP) financed by the World Bank at a cost of USD 68.5 million. The purpose of the RPF is to establish the resettlement and compensation principles, organizational arrangements, and design criteria to be applied to meet the needs of the people who own or use land or resources, which a subproject need to relocate or displace from their current places of residence or livelihood in order to achieve the project's objectives. The RPF was developed to provide guidelines on how the projects will avoid, manage or mitigate potential risks and the process by which Resettlement Action Plans (RAP) will be prepared and implemented for specific identified sub projects within the project scope.

Kenya Informal Sector also has a Resettlement Policy Framework developed in 2011 under the Kenya Informal Settlements Improvement Programme (KISIP) which is a Government of Kenya and World Bank funded Initiative aimed at engineering the transformation of the Kenyan urban and local government sector towards better delivery of services. The KISIP development objective to improve living conditions in informal settlements in selected

Kenyan counties is motivated by aspirations of Kenya-Vision 2030. The RPF has been developed to guide resolution of any displacement anticipated from project activities. However, the understanding of RPF is that, given the small scale nature of investments anticipated under the KISIP, there is no major displacement is anticipated

Kenya Electricity Transmission Company (KETRACO) has also developed a Resettlement Policy Framework in the year's 2011 specific to the proposed Loiyangalani to Suswa 400kV transmission line. The purpose of the policy was developed on an understanding that Involuntary resettlement if unmitigated, often gives rise to severe economic, social and environmental risks. This RPF was prepared to ensure safeguards are in place to address and mitigate the impoverishment risks identified above. The purpose of the RPF was to define a set of guiding principles which will ensure a consistent approach to resettlement across KETRACO's transmission infrastructure developments as it endeavors' to build a world class national grid.

## **2.5 Research Gaps**

The following gaps and lessons were indentified from literature

- (a) Factors affecting PAPs during resettlement in developing countries have not been fully researched and institutionalized by infrastructure projects implementing authorities.
- (b) Developing countries do not have specific localized laws relating to displacement and land compensation, they depend on World Bank Operational Policy 4.12 on Involuntary Resettlement.
- (c) Compensation for lost asset is not normally done at should full replacement cost, its normally done at market rate hence PAPs end up losing livelihood restoration consideration

## **2.6 Theoretical Framework**

In an applied context, theories can be understood as interrelated ideas about various patterns, concepts processes, relationships, or events. In a formal sense, social scientists usually define theory as a system of logical statements or propositions that explain the relationship between two or more objects, concepts, phenomena, or characteristics of humans (Robinson, 2000).

In resettlement studies in recent years, one name stands out as a very important contributor to the field, that being Michael Cernea (Macdonald, 2008). Cernea has over the years constructed

a model for calculating different factors that can lead resettled people into poverty, called “Impoverishment Risk and Reconstruction Model for Resettling Displaced Populations”. (IRRM)

The model has been important at different stages in this research. The model was important at the planning stage as a tool of gaining knowledge about mechanisms that occur in a resettlement process, it was also important when framing research questions and objectives for the study

### **2.6.1 The Risks and Reconstruction Model for Resettling Displaced Populations**

The model explains the risks of poverty and proposes ways of rehabilitating the livelihoods of the relocated population ((McDonald et al, 2008).The model can be described as a conceptual model for analyzing the socio and economic content of displacement, the model anticipates displacement’s major risks, explains the behavioral responses of displaced people, and can guide the reconstruction of PAPs livelihood’ (Cernea, 1997). The model has four distinct functions which include; diagnostic, predictive, problem, resolution as well as research function.

The diagnostic function seeks to explain what the patterns in relocation processes are, and how recurrent problems can lead people into poverty. The model explains eight economic and social hazards. The use of this function is that it can show decision makers and people who might be affected of these projects both the nature and potential risks of forced relocation

The predictive function becomes apparent when one turns the diagnoses into a prediction of what will happen in the future. When this happens one can use the knowledge of what has happened before and prevent previous mistakes and shortcomings of happening again. This function can be useful for those in charge of planning involuntary resettlement

The problem resolution function is what one can use to reconstruct the livelihoods of the relocated. This shows the diversity of the model, it does not only point out the dangers and risks in involuntary displacement, and it also shows suggestions for how to solve problems that have arisen during a resettlement process. This can also mean that model can be useful for older resettlement projects which have had a negative impact on the population. It can be used to improve the livelihoods of people who have experienced a lowered living standard after being resettled.

The research guiding function of the model has showed to be useful for social researchers when it comes to creating hypothesis, and to do fieldwork framed by the model. The model has also been used in a training program made by the Asian Development Bank for “building capacity for resettlement management” and “support the implementation of ADB’s Involuntary Resettlement policy (Cernea, 2007)

### **2.6.2 Eight Impoverishment Risks**

As already mentioned, this model presents eight impoverishment risks, the risks are as described below;

The first risk described by the model is landlessness. Loss of land leads to impoverishment because it takes away people the foundation for people’s livelihoods. This leads to a “de-capitalization and pauperization of displaced people”.

Joblessness is the second risk being described and can occur both in rural and urban settings, the problem of joblessness is that it can become a problem for a long time after the physical resettlement has been finished.

The third risk is homelessness which often is a situation that only lasts for a short period of time, but sometimes the homelessness becomes a permanent situation. The loss of a home can also be linked to loss of a cultural space in a group.

Marginalization is also an impoverishment risk which happens when people do not lose everything, but almost everything. This can be a farmer that does not lose all his land, but so much of it that he will struggle to survive, or someone who gets a new job, but not a job they are qualified for. This may lead to a loss of human capital and less faith in self and society.

Increased morbidity and mortality can occur as a result of relocation. This can be seen both in terms of the social stress, and trauma caused by relocation that causes declines in health and unsafe water systems and poor sanitation systems that can lead to chronic diarrhoea and epidemics. Infants, children and elderly are the most vulnerable groups for diseases caused by relocation projects.

The risk of food insecurity is also another risk associated with involuntary resettlement; people

might not have access to a nutritious food supply and can therefore experience chronic undernourishment.

Loss of access to common property can also be a consequence of resettlement; this means that the relocated loses the opportunity to use common property assets such as forested lands and grazing lands. This loss can lead to deterioration in income and livelihood, and this loss is often not compensated in the relocation process.

The last risk is social disarticulation. Involuntary displacement can both destroy social organization and personal ties. The consequences of this can be insecurity which is described as “loss of sense of cultural identity”. Further, poverty is not only to not have land, work and food, it is also to lose power, and to be dependent and vulnerable, and in this way is social disarticulation an important risk of impoverishment in involuntary resettlement

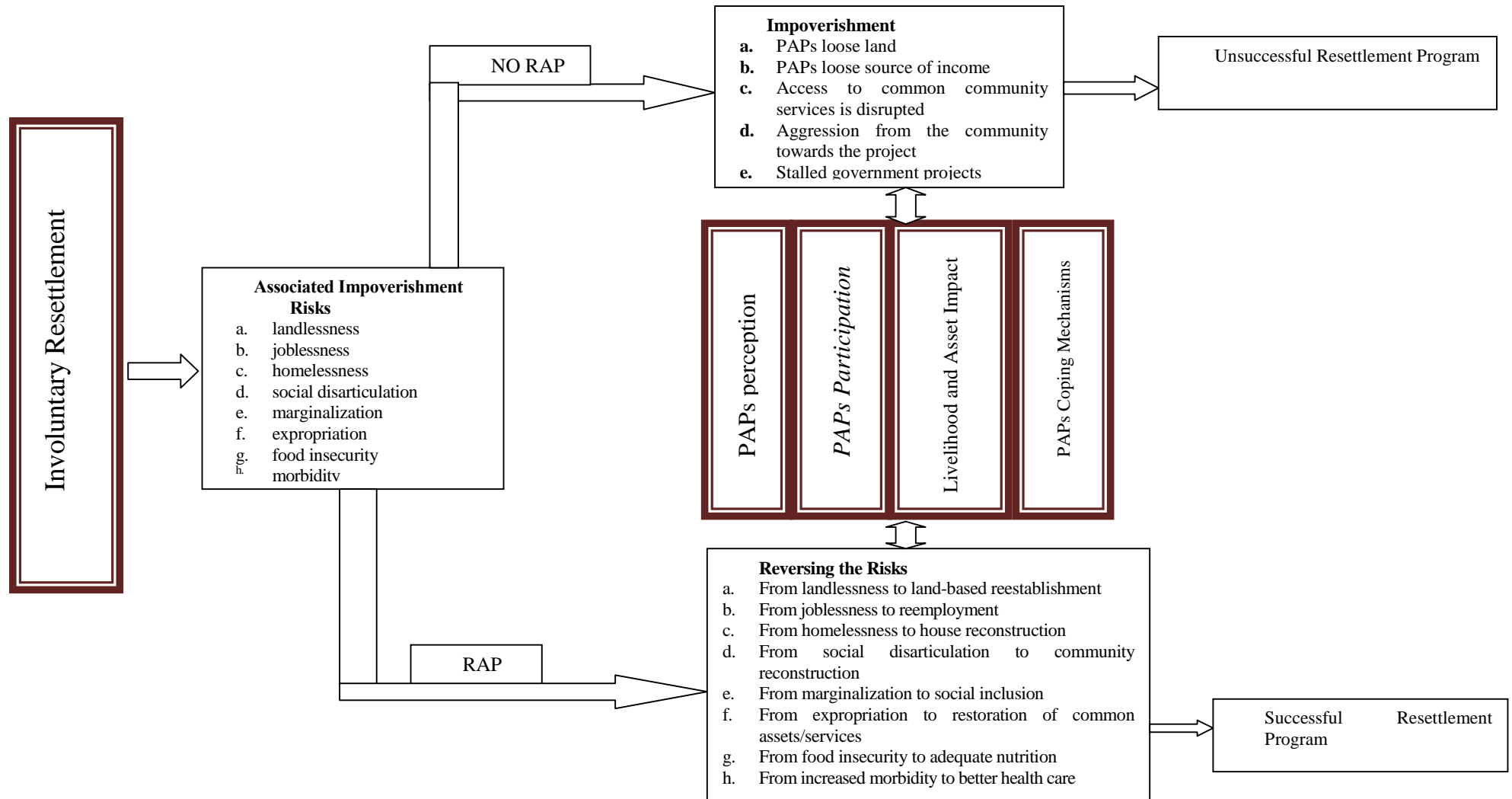
### **2.6.3 Reversing the Risks**

As already stated the risk and reconstruction model is useful for diagnosing risks and prevent risks to become reality. Another important part of the model is the reconstructing part where one can reverse damages already done. Cernea has a suggestion for how to reverse each risk he presents; these suggestions are as follows: From landlessness to land-based reestablishment, from joblessness to reemployment, from homelessness to house reconstruction, from social disarticulation to community reconstruction, from marginalization to social inclusion, from expropriation to restoration of common assets/services, from food insecurity to adequate nutrition, from increased morbidity to better health care.

When using the model, one can see that to relocate successfully one need to do a lot more than just compensating with money. The model illustrates that there is need for, reconstruction of PAPs economic and productive basis, enhancement of social and community building and rebuilding of services at relocation sites.

## 2.7 Conceptual Framework

Conceptual framework the research has been developed from Micheal Cernea 1996 Impoverishment Risk and Reconstruction Model (IRRM)



Source: Modified from the Author



## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.1 Introduction

This chapter examined the research methodology, the approach adopted for sourcing data or information in order to achieve the study objectives and answer the research questions. The chapter contains the study design, definition of the target population, sample size, and analyses techniques/tools.

### 3.2 Research Design

The research was an evaluation of social and economic impacts of post involuntary resettlement encountered by PAPs during construction of Thika dam in 1989. In Particular, the study focused on interviewing sample respondents selected from the 300 families displaced. The villages under focus were; Kimandi, Wanyaga, Ndakaini, Makomboki and Kimotho which are surrounding the dam.

### 3.3 Sample Sizes

The determination of sample size for the study was arrived at using a standard formula for determining sample size developed by (Krejcie & Morgan, 1970). Since the target number of PAPs relocated was 300, calculation of sample size adopted the formula below from using 0.05 degree of accuracy and 95% accuracy level.

$$S = \frac{X^2NP(1-P)}{d^2(N-1) + X^2P(1-P)}$$

Where:

- S* = Sample size
- X* = Z value (e.g. 1.96 for 95% confidence level)
- N* = Population Size
- P* = Population proportion (expressed as decimal) (assumed to be 0.5 (50%))
- d* = degree of accuracy (5%), expressed as a proportion (.05); It is margin of error

The formula presented a sample size of 169 respondents to be selected through systematic randomsampling within the five villages that formed the sampling frame.

### 3.4 Sampling Procedure

The main sampling method adopted during the study was systematic random sampling procedure due to the fact the population size was small and finite. The 300 families formed the sampling population from which the 169 households total sample size was selected at an equal intervals starting with randomly selected household from the population, this household formed the  $k^{th}$  household.

Then the sampling interval denoted as  $k$  was worked out using the formula adopted from (Krejcie & Morgan, 1970)

- $k = \frac{\text{Size of population}}{\text{Desired sample size}}$   
 $= 300/169$   
 $= 1.775$  or rounded to 2

The researcher therefore, adopted an interval of '2' to collect the sample data from the  $K^{th}$  household in each of the villages

### 3.5 Data Collection

The research instruments that were used to collect data during the study included: structured and open ended questionnaires, direct observation and structured interviews and focused group discussions. The researcher pre-tested the research questionnaire to ascertain the tool's capability to collect necessary data on the first day of the field work. Gaps resulting from the pre-test were included in the research. The study used both primary data and secondary data in an attempt to answer the stated research questions.

The researcher spent three weeks in the villages administering questionnaires to project affected persons. The estimated number of household interviewed was 169 respondents determined as the sample size. A standard questionnaire was used to collect basic PAP census information including household members both resident and non-resident, their age, sex, ethnic group, relationship to head of household, education, occupation and housing conditions. The census also documented current housing conditions, health conditions economic activities, sources of income and household expenditures, this information was be used to establish a socio-economic profile of PAPs based on existing conditions.

The questionnaire also had questions related to form of compensation that was provided whether the compensation provided was commensurate with the land / livelihood surrendered PAPs expectations from the government and rating of the government on how the process was handled. Questions of mode and forms of participation including coping mechanisms also were reflected in the questionnaire.

Secondary data was obtained from Government publications such as economic surveys, population census reports, statistical reports, statistical abstracts and development plans among others. More specific information will be derived from feasibility reports and valuation reports prepared for the project by Nairobi City Commission now Nairobi City Water and Sewerage Company which was enacted after water Act 2002.

### **3.6 Data Analysis**

After data collection, analysis was done using both qualitative and quantitative methods. Data was presented in form of tabulations, pie charts and graphs. Chi square test was used in testing the null hypothesis at 0.05 confidence level. Chi square was used because of its ability to test interdependence or dependence of more variables indentified in the study and to provide relationships between the variables. It also helped in measuring the discrepancy between the observed and the expected frequencies.

## CHAPTER FOUR: RESULTS AND DISCUSSION

### 4.1 Introduction

In the previous chapters, the concepts and theoretical background to the social and economic Impacts of Involuntary Resettlement to Project Affected Persons due to large infrastructure developments were discussed through a comprehensive literature study. In order to address the research objective highlighted in Chapter one, a research study was conducted to provide an understanding of the impacts. The purpose of this chapter is to present responses obtained from various participants in the research project. The following sections present analysis of data collected and analyzed using SPSS version 17.

### 4.2 General Information of Household Head

#### 4.2.1 Gender of Household Head

Majority of the respondents interviewed in all the five settlements were male at 65.7% and female at 34% as illustrated in table 4.2-1 below.

**Table 4.2-1 Gender of House Hold Head**

	<b>Frequency</b>	<b>Percent</b>
Male	111	65.7
Female	58	34.3
Total	169	100.0

#### 4.2.2 Age of Household Head

The modal age of the household heads was found to be 41yrs to 50 years of age with a minimum age of 30yrs and a maximum of 82yrs as seen in the table above.

#### 4.2.3 Occupation of Household Head

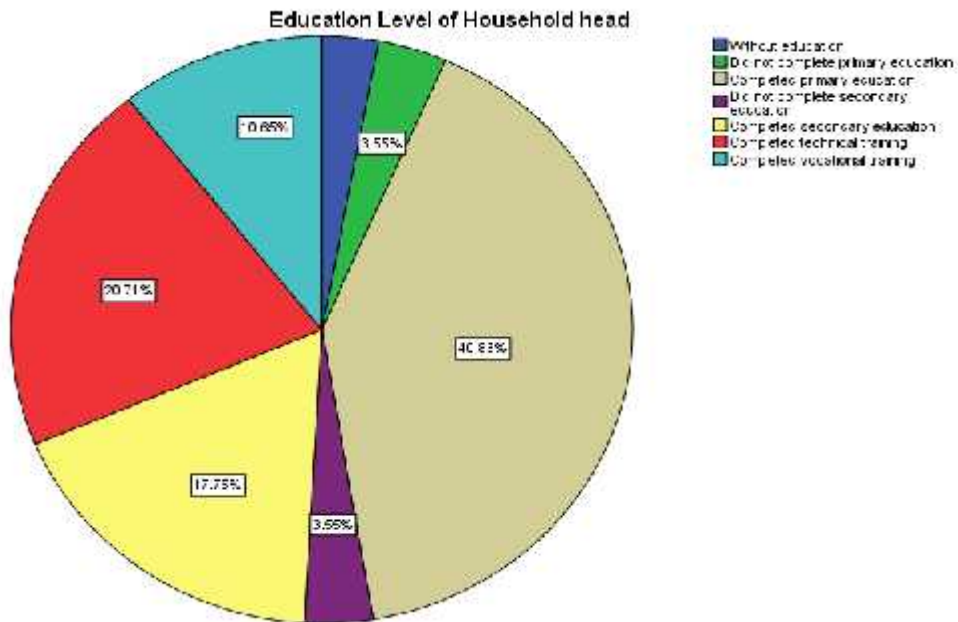
Majority of household heads interviewed were farmers cultivating tea and rearing dairy cows at 96% while the rest were civil servants 3.6%

#### 4.2.4 Education Level of Household Head

Analysis indicated that 41% of the household Heads completed their primary education, 21% completed technical training as which is an indication of high literacy level of the respondents

with only 3.55% of the respondents without basic primary education, figure 4.2-2 below provides the representation.

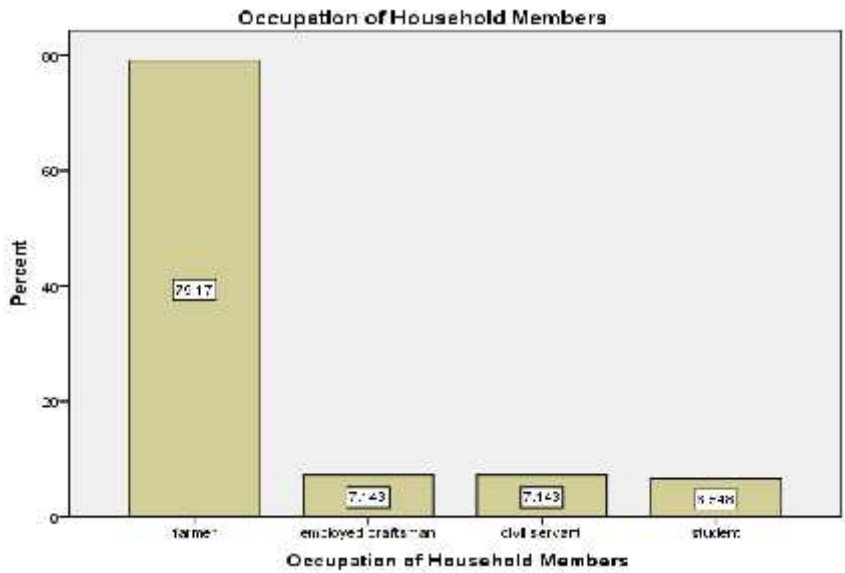
**Figure 4.2-2; Education Level of Household head**



#### 4.2.5 Occupation of Household Members

Figure 4.2-3 below represents the occupation of the household members and it can be seen that the most common occupation was farming at 79% while craftsmanship and civil service were at 7% respectively.

**Figure 4.2-3; Occupation of Household Members**



**4.3 Perception of Project Affected Person on the Resettlement Process**

**4.3.1 Compensation commensurate to assets acquired**

The respondents were asked to provide information on whether compensation they received was commensurate to the assets acquired, they responded that they were not satisfied and complained that their land was undervalued and compensation imposed to them against their will. They argued NCC did not provide room for negotiation as the mode of land acquisition adopted was compulsory acquisition under the old Land Act and constitution.

The only form of compensation done by the government was cash for land which was not commensurate with the land and livelihood acquired. 59% of the respondents’ disagreed that compensation value was not commensurate with assets acquired, other forms of compensation for example land to land and livelihood restoration were never considered by NCC.

**4.3.2 PAPs expectations in regards to compensation**

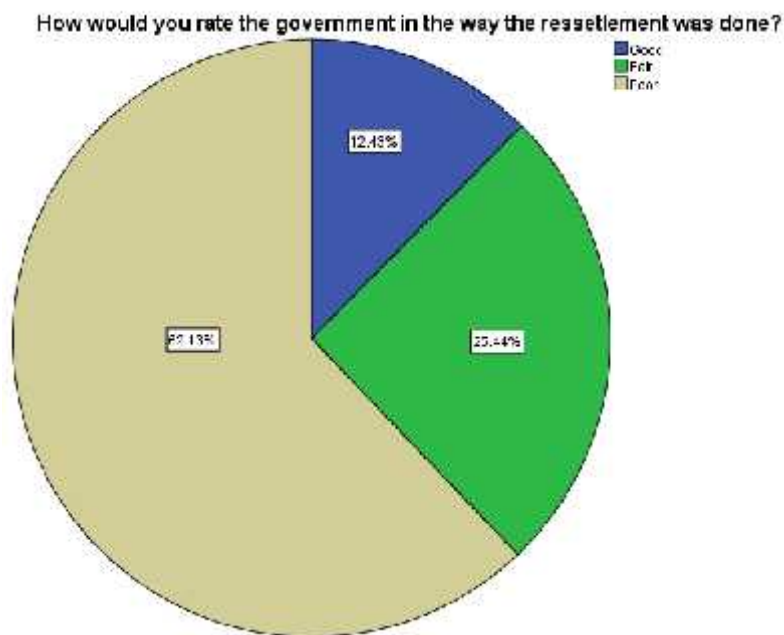
The question was asked to the respondents so as to understand whether their expectations were by NCC in regard to compensation. All the 169 respondents were unsatisfied with the package offered to them and felt that it was not adequate, they expected more money, measures to be put

in place to restore their livelihoods and restoration of community assets that were affected, they also expected to be allowed enough time to relocate and salvage their materials which they intended to re-use.

### 4.3.3 PAPs Rating of the Government on Resettlement Process

The PAPs were asked to rate the way the NCC handled the resettlement process, using “good” “fair” or “poor”. The figure below illustrated the responses

**Figure 4.3-2 PAPs Rating of the Government on Resettlement Process**



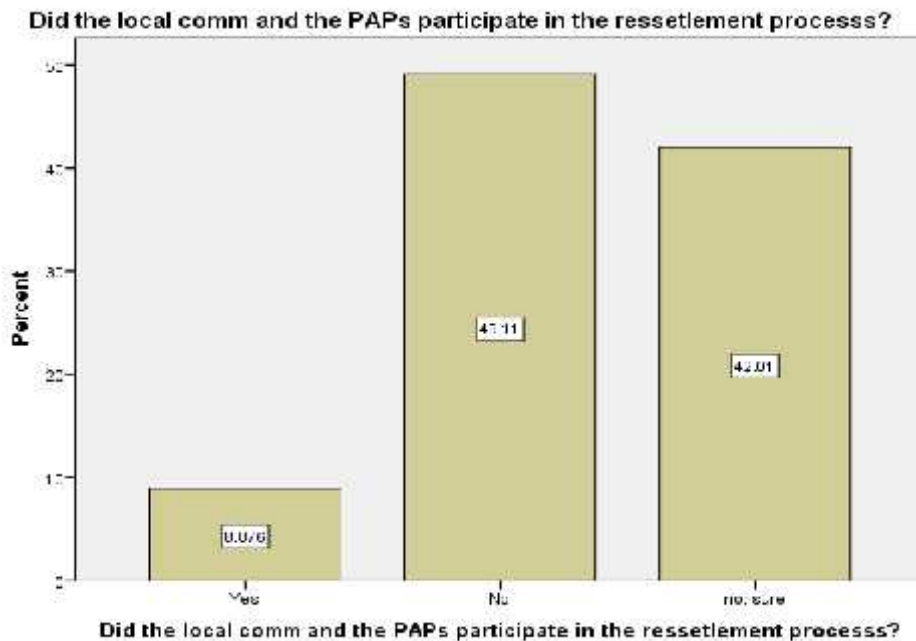
Majority of the response was at 62%, these respondents rated the resettlement process as poor, followed by 25% fair and only 12.43% good. The poor rating was due the reason that the PAPs felt that the government short changed them during the process. The group that was satisfied was the ones who did not live on the affected parcel had the intention of selling the land.

## 4.4 Project Affected Person Participation in Resettlement Process

### 4.4.1 PAPs Participation in the Resettlement

The question that was asked to the respondents was whether the local community and the project affected persons participate and involve adequately in the resettlement process, the response was as illustrated in the table and figure 4.4-1 below.

**Figure 4.4-1 PAPs Participation in the Resettlement**



The analysis shows that the participation was not adequate with response “no” at 49.11% followed by response “not sure” at 42.01%, response “yes” was at 8.876%. In summary, this implies that the community did not participate adequately in the process and was only called upon to be informed of the next stage of the process.

### 4.4.2 Form of Participation in the Resettlement

The respondents were asked to give information on the form of participation that was undertaken, analysis indicated that there was more of government enforcement of compulsory acquisition through the local administration which was the government agent and limited attention to community representation through local committees. 77.51% of the respondents



acknowledged that participation was done only through a representation of the local administration who were used to enforce compulsory acquisition.

#### **4.4.3 Representation of the Minority groups in the committees**

The research intended to find out whether the committee that were formed to the represent the interest of the PAPs that time had a fair representation of the minority groups which include the disabled, widows, elderly and orphans.

Respondents who responded to this question at 59.17% affirmed that there were no committees represented in terms of minority groups only 40.83% acknowledged representation in the committees, however they complaint that the committee were dormant and did not actively participate in the resettlement process.

#### **4.4.4 Frequency of the Meetings**

The analysis illustrated that Meetings were not often organized by the team spearheading the resettlement of PAPs as seen in the chart below, 42% argued that the meetings were never organized, while 58% argued that the meetings were only organized once or twice. However, emphasis was that the meetings were only organized by the authorities to pass information regarding the resettlement process to the PAPs for dialogue as was expected.

#### **4.4.5 Project Affected Persons Concerns**

The question was intended to find out whether opinion and concerns suggested by the PAPs regarding the resettlement process was taken up by the NCC. The question asked was “How were the opinions and suggestions in cooperated in the resettlement process”. 88% of the respondents confirmed that their opinion and suggestions regarding the resettlement process were never taken into consideration, only 11.83% of the respondents felt that the opinions were taken up but never actualized.

#### **4.4.7 Grievance Handling by the Government**

The research under this question intended to find out whether there was any mechanism of handling grievances that resulted from the compensation process, the question that was asked was “Then how were grievances and complains resulting from the entire process handled by the

government authority that was handling the resettlement process”. 58% of the respondents complained that NCC did nothing to their grievances only 41.42% indicated that the only way they could have their complaints heard by the authority was through demonstrations.

#### 4.5 Socio and Economic Impacts of Resettlement

##### 4.5.1 Social Amenities Affected by the Project

The site that was acquired for construction of the dam had numerous social and economic amenities that were previously used by the PAPs; the question sort to understand type and mostly affected amenities which existed on site before acquisition.

**Table 4.5-1 Social Amenities Affected by the Project**

	Market	Church	School	Health Center	Cattle dips	Worship area	Grave yards	Play grounds	Water Supply	Roads	Bridges
Affected	169	162	163	160	160	158	156	157	155	166	161
Not Affected	0	7	6	9	9	11	13	12	14	3	8

The table above indicates that most affected social amenities were schools, roads, markets, health centers and bridges as indicated in the table 4.5-1.

##### 4.5.2 Impact of Resettlement Process to the PAPs Livelihood

The question was meant to understand the impact of the entire resettlement process to the PAPs in terms of their economic and social status 25years after resettlement. Response from the respondents was as illustrated in the table 4.5-2 below.

**Table 4.5-2; Impact of Resettlement Process to the PAPs**

	Education		Occupation		Health		Business		Housing		Farming (Tea)		Religion	
Yes	146	86.4%	149	88.2%	146	86.4%	150	88.8%	149	88.2%	160	94.7%	0	0.0%
No	23	13.6%	20	11.8%	23	13.6%	19	11.2%	20	11.8%	9	5.3%	169	100.0%

The resettlement process mostly affected the tea farming of the respondents as is seen in the above table. The main impact of the process was to land, sources of livelihood and access to common resources as seen above.

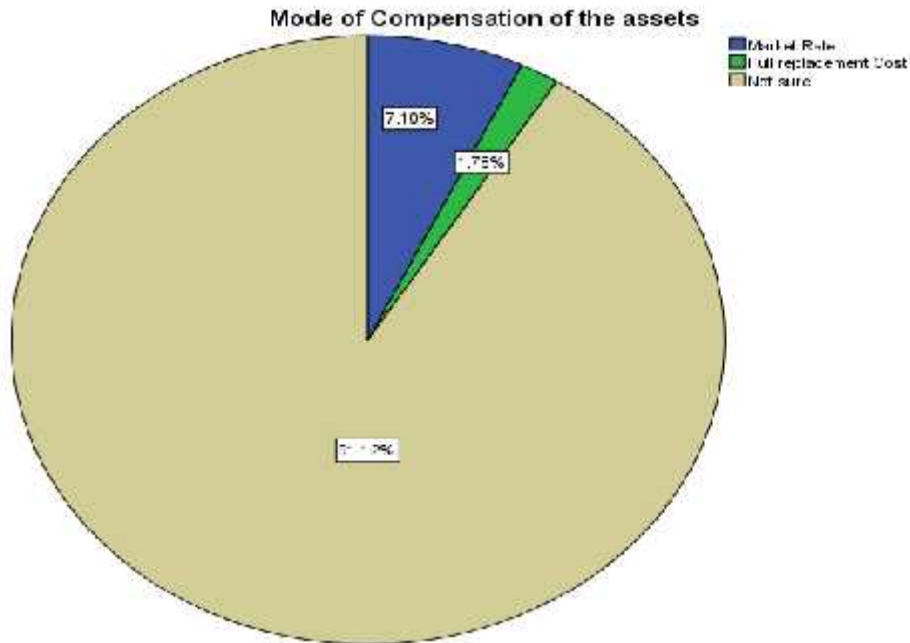
#### **4.6 Success of Coping Mechanisms initiated by the PAPs**

The essence of the question was to understand how the PAPs managed to deal with the stress of relocation and the kind of activities they engaged in order to make ends meet. Therefore, to measure the success or failure of coping mechanisms adopted by the PAPs the questions that were asked by the researcher were; mode of compensation to determine whether the compensation was full replacement cost or market rate of assets acquired, how compensation money was invested by the PAPs and rate of success of the current economic activities initiated by the PAPs.

##### **4.6.1 Mode of Compensation of the Assets**

There are several ways of calculating the compensation package eligible to PAPs, the most common one method is calculation at the full replacement cost which takes into account the compensation package other factors including disturbance allowance, restoration measures, transport cost for relocation of assets among others. The other mode is market rate whereby the asset is valued as per similar cost in the market and acquired under a willing buyer willing seller arrangement. Therefore, the question was intended to find out which mode of compensation was used to compute the compensation package eligible to the PAPs and below is how the PAPs responded.

**Figure 4.6-1 Mode of Compensation of the Assets**



The value of compensation was not clearly defined; therefore most of the respondents at 91% were not sure the mode that was adopted as illustrated in the chart above.

#### **4.6.2 Investment of Compensation Money**

The PAPs were asked to explain how they utilized the compensation money they received after their assets were acquired, majority of them utilized the money in paying school fees for their children, they argue that the money was meager and that it wasn't even enough to buy a similar land parcel in the area.

#### **4.6.3 Government Assistance in Re-establishment**

In a formalized resettlement as guided by World Bank OP 4.12, resettlement should be followed by structured post resettlement measures to support the PAPs re establish their new homes and livelihood, such measures include; Training on accountability and investment, business incubation centre's established, relocation assistance, offered PAPs casual employment during construction of the Dam, assisted to salvage material and transport to new home and allowed reasonable time for the PAPs to look for land and construct their houses before moving.

From the analysis majority of the PAPs paid school fees for their children with the compensation money received, others bought smaller land parcels and continued with farming activities while others took loans from SACCO to reestablish. Analysis of data on this question indicated that 59.2% of the respondent agreed that their coping strategies were never successful and they have been suffering until now while 40.8% agreed that they managed to cope and reestablish with the little money they received.

#### 4.7 Hypotheses Testing

The study used chi-square to test the research null hypotheses adopted for the study, chi square helped in understanding the interdependence and dependence of more variables identified in the study and to provide relationships between the variables, if the calculated value of the chi square is less or equal to (.05) then the null hypothesis is rejected

##### 4.7.1 Hypothesis One

H<sub>0</sub>: The government involuntary resettlement of Thika Dam PAPs did not influence their perception in regards to government's involuntary resettlement procedures.

The question that was used to understand the PAPs perception in regards to government resettlement process is how the PAPs rated the government in the way the resettlement was done.

**Table 4.7-1 PAPs rating of government resettlement – Chi Square Test**

Gender of Household head * How would you rate the government in the way the resettlement was done? Cross tabulation						
			How would you rate the government in the way the resettlement was done?			Total
			Good	Fair	Poor	
Gender of Household head	Male	Count	9	27	75	111
		Expected Count	13.8	28.2	69.0	111.0
	Female	Count	12	16	30	58
		Expected Count	7.2	14.8	36.0	58.0
Total		Count	21	43	105	169
		Expected Count	21.0	43.0	105.0	169.0

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.551 <sup>a</sup>	2	.038
Likelihood Ratio	6.295	2	.043
N of Valid Cases	169		

0 cells (.0%) have expected count less than 5. The minimum expected count is 7.21.

Source: Field Data

The chi square value from the above question is 6.551 at degree of freedom (2).

In this case, the calculated chi square value is 6.551. This value is greater than the critical value which was 5.99 at a 0.05 significance level; hence the null hypothesis was rejected. That is, there is sufficient evidence to conclude that the way NCC handled Thika Dam resettlement has significantly influenced the PAPs perception with regards to government resettlement procedures.

#### 4.7.2 Hypothesis Two

H<sub>0</sub>: Thika Dam PAPs did not significantly participate in the involuntary resettlement process during construction of the dam.

The questions that was used to understand the level of PAPs participation in the resettlement process was whether the local communities through committees actually participated in the resettlement process.

**Table 4.7-2 PAPs participation in the Resettlement Process – Chi square test**

Gender of Household head * Did the local comm. and the PAPs participate in the resettlement process? Cross tabulation						
			Did the local comm. and the PAPs participate in the resettlement process?			Total
			Yes	No	not sure	
Gender of Household head	Male	Count	12	47	52	111
		Expected Count	9.9	54.5	46.6	111.0
	Female	Count	3	36	19	58
		Expected Count	5.1	28.5	24.4	58.0
Total	Count	15	83	71	169	
	Expected Count	15.0	83.0	71.0	169.0	

Chi-Square Tests			
	Value	df	symp. Sig. (2-sided)
Pearson Chi-Square	6.183 <sup>a</sup>	2	.045
Likelihood Ratio	6.284	2	.043
N of Valid Cases	169		

cells (.0%) have expected count less than 5. The minimum expected count is 5.15.

*Source: field data*

The chi square from the above question is 6.183 at degree of freedom (2).

In this case, the calculated chi square value is 6.183. This value is greater than the critical value which is 5.99 at a 0.05 significance level; hence the null hypothesis was rejected. That is, there is sufficient evidence to conclude that the local community and PAPs did not significantly participate in the resettlement process that was conducted for Thika Dam.

### 4.7.3 Hypothesis Three

H<sub>0</sub>: The current socio-economic status of Thika Dam PAPs is not significantly related to the involuntary resettlement that was conducted during construction of Thika Dam.

The questions that was used to understand the current social and economic status of the PAPs and how they were impacted by the resettlement was the mode of compensation that was adopted by the NCC.

**Table 4.7-3 Compensation Mode adopted by NCC**

Gender of Household head * Mode of Compensation of the assets Cross tabulation						
		Mode of Compensation of the assets			Total	
		Market Rate	replacement Cost	Not sure		
Gender of Household head	Male	Count	9	28	74	111
		Expected Count	13.8	28.9	68.3	111.0
	Female	Count	12	16	30	58
		Expected Count	7.2	15.1	35.7	58.0
Total		Count	21	44	104	169
		Expected Count	21.0	44.0	104.0	169.0

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.317 <sup>a</sup>	2	.042
Likelihood Ratio	6.054	2	.048
N of Valid Cases	169		

cells (.0%) have expected count less than 5. The minimum expected count is 7.21.

*Source: field data*

The chi square from the above question is 6.317 at degree of freedom (2).

In this case, the calculated chi square value was 6.317. This value is greater than the critical value which is 5.99 at a 0.05 significance level; hence the null hypothesis is rejected. That is, there is sufficient evidence to conclude that the current social and economic activities of Thika Dam PAPs is significantly related to the resettlement that was undertaken during construction of the dam in 1989.

## **4.8 Discussion**

### **4.8.1 Perception of PAPs on Resettlement**

The study found out that perception of the project affected persons and community at large regarding compensation was highly negatively influenced by the way NCC handled the compensation process. Interviewed respondents felt that the mode of compensation proposed to them was inappropriate “cash for land” which was not at market value or at full replacement cost. Other forms of compensation like “land to land” and post resettlement livelihood restoration measures were totally ignored.

Adopting (Cernea, 1997) IRRM model, one can see that to relocate successfully one need to do a lot more than just compensating with money. Cernea argues for this approach as an opposite to the compensation only approach, which is how PAPs were treated in during construction of Thika dam. Following the IRR model one can point out two strategic directions in resettlement which lacked in the process, these were; Reconstruction of PAPs economic/productive basis and Social/community building.



The study on sustainability of Vietnam's Large Dams by (Yen, 2003) argues that resettlement plan needs to be considered as soon as possible and not later than the Feasibility Study citing an example of Hoa Binh project in 1992 where there was little preparation for resettling affected people in new places.

#### **4.8.2 Participation of PAPs in Resettlement**

The study discovered that no effort was made by NCC to bring together all players that were relevant with regards to resettlement; this denied the PAPs a platform where they could share their views and concerns regarding the entire process. The most pronounced mechanism that was emphasized by the respondents to this study was the "Top Down" way of handling the process, using the repealed Land Act, compulsory acquisition was enforced and this totally denied the PAPs a redress mechanism for the grievances.

Lesotho Highlands Water Project, Lesotho for instance, (Sephula, 2011) argues that there is a need to engage all the stakeholders affected by involuntary resettlement through a transparent public participation process; consider more sustainable means of livelihoods and furnish PAPs with information on the options to enable them to make informed decisions.

#### **4.8.3 Social and Economic Impact of Resettlement**

The study discovered that the main impact caused by resettlement process was loss of land and sources of livelihood to the PAPs and community. This loss directly impacted on all the social and economic attributes discussed, this were, education, occupation, economic status, housing social networks and amenities like cattle dips. Cernea (2007) suggested ways in which such risks can be reversed, this include; from landlessness to land-based reestablishment, from joblessness to reemployment, from homelessness to house reconstruction, from social disarticulation to community reconstruction, from marginalization to social inclusion, from expropriation to restoration of common assets/services and from increased morbidity to better health care.

A Similar study of Bujagali Hydropower Dam Project Affected People in Naminya Resettlement Village, Uganda (Nampungu, 2011) also revealed that the Project Affected Persons livelihoods worsened due to relocation that caused them to loss land and sources of

livelihood which was mainly as fishing, they also lost family ties and access to common properties like shrines and forest

South-North Water Transfer Project in Henan China (Lindalen, 2012) PAPs claimed that their lives did not change much after resettlement, however this is due to the fact that they were provided for housing and equivalent land, distance they were relocated from their original home was the only factor that contributed to dissatisfaction. This is different from Thika dam situation where the Project Affected Persons were only compensated for cash for land

#### **4.8.4 Discussion on PAPs coping Mechanisms.**

The research found out that most of the PAPs relocated to the neighboring villages which were Wanyaga, Kimotho, Makomboki, Ndakaini and Kimandi. Wanyaga Village received a high number of the PAPs due to the fact that land parcels for sale were available.

They continued with farming as the main coping strategy however on a low scale compared to their original land while others took loans to reestablish their businesses. Over time through hard work and support from friends and families they have manage to overcome the destabilization caused by resettlement.

Scenario of Project Affected Person failing to adapt to impacts of resettlement were revealed in the study on Lesotho Highlands Water Project (Sephula, 2011). Findings of the research indicated that the methods of compensation adopted by the project were inadequate according to research participants, the government did not assist in restoring the previous quality of life of the affected persons. Community members felt that the approach overlooked many of the social and economic costs for example, loss of access to common property resources and housing.

## **CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

The problem statement under investigation as set out in the study was to determine the socio-economic impacts of involuntary resettlement caused by implementation of large water infrastructure projects. This problem was accepted since respondents stated clearly the social and economic challenges they have undergone through since they were resettled from the site to create space for construction of Thika Dam in 1989.

### **5.2 Conclusions**

The study therefore concluded that that perception of the project affected persons regarding government resettlement process was negatively influenced by the way authorities handle the process. Institutions implementing the resettlement process often ignore to adequately involve all relevant stakeholders in the process; therefore PAPs are often denied a platform where they can share their views and concerns regarding the resettlement process.

In the present study, PAPs lost land and sources of livelihood, compensation offered was not sufficient to restore the affected persons to a better condition or equivalent condition prior to resettlement although PAPs often establish coping mechanism to mitigate the impacts of resettlement, most of the adaptations initiated by the PAPs often collapse due to lack of post resettlement assistance by project implementing agencies.

### **5.3 Recommendations**

The study therefore recommends the measure listed below to be adopted by project implementing authorities when undertaking resettlement programmes;

- Ensure compensation is made at full replacement cost not at market value, full replacement form of compensation allows for inclusion of other associated post resettlement strategies which enable the PAPs to re-establish.
- Involve PAPs in making decisions on resettlement matters, this provide a platform where PAPs and other interested stakeholders can present their ideas and concerns to be included in the process, this assures community goodwill to the project.

#### **5.4 Suggestion for further studies**

The Research study indentified research gaps in the current international and national legal instruments enacted to provide guidelines on matters related to involuntary resettlement during implementation of government infrastructure projects, therefore further research can be undertaken to determine how the instruments can be amended in order for them to effectively address challenges of involuntary resettlement.

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**APPENDIX 1: UNIVERSITY INTRODUCTORY LETTER**





**UNIVERSITY OF NAIROBI**  
**Department of Geography & Environmental Studies**

Telephone: +254 2 318262  
Extension: +28016  
Fax: +254 2 245566

P.O. BOX 30197-00100  
NAIROBI  
KENYA

3 September 2014

**TO WHOM IT MAY CONCERN**

This is to confirm that **Mr. Godwin Lidahuli Sakwa** (Reg. No. C50/79868/2012) is a postgraduate student at the Department of Geography and Environmental Studies, University of Nairobi. He is pursuing his Master of Arts Degree in Environmental Planning and Management and is currently undertaking a research project on **“Social and economic impacts of large scale water infrastructure development: The case of involuntary resettlement of Thika Dam”**.

Any assistance accorded to him will be highly appreciated.

Yours faithfully,



**Dr. Kennedy J. Omoke**  
**Ag. Chairman, Department of Geography & Environmental Studies**

## **APPENDIX 2: FIELD QUESTIONNAIRE**



**2 Occupation of the Head of the household**

2.1 Primary occupation: .....

2.2 Secondary occupation: .....

2.3 Tertiary occupation: .....

**Primary, secondary and tertiary occupation (2.1, 2.2 & 2.3): (multiple responses possible)**

- 1- subsistent trader  2- farmer  3- Farmer-Breeder  4- Fisherman or Fish farmer  5- Builder  6- Agricultural worker  7- Animal breeding labor  8- Fishing/Fish farming labor  9- Building labor  10- Self-employed craftsman/woman  11- Employed craftsman/woman  12- Non-employed home helper  13- Shop assistant  14- Civil servant  15- Student  16- Housewife  17- Without occupation/employment  28- Other.....(specify)

**3 Education level of the household head: .....**

- 1- Without education  2- Did not complete primary education  3- Completed primary education  4- Did not complete secondary education  5- Completed secondary education  6- Completed technical training  7- Completed vocational training  8- Other: .....

**3.3 Other household members** :Provide information on other household members specifying their relationship with the Head of the household

No.	Name of Household Member	Relationship with the Head of the household	Gender	Age	Occupation			Education	Can read and/or write
			1-M 2-F		Primary	Secondary	Tertiary		1 – Yes 2 – No

**Relationship with the household head:**

- 1- Spouse                       2- Son/Daughter                       3- Parent (Father/Mother)                       4- In-laws                       5- Brother/Sister                       6- Brother/Sister-in-law  
 7- Nephew/Niece                       8- Grand-son/daughter                       9- Cousin                       10- Other parent                       11- Other (specify) .....

**Primary occupation, Secondary and Tertiary:**

Refer to codification question 2.1, 2.2 & 2.3

**Education:**

Refer to codification question 3

**3.4 For all household members**

No.	Categories of people in the household	1- Number of Males	2- Number of Females
3.1	School age persons (6-15 years old) :		
3.2	School age persons (6-15 years old) attending school:		
3.3	Household members with a paid job:		
3.4	Household members who cannot have a paid job for health reasons:		

**4 Information about Thika Dam Resettlement in 1984**

4.1 What age were you in 1984 when the government was relocating people from the site indentified for construction of the dam.

- 1- (0-5yrs       2- (6-10yrs                       3- (11-15yrs                       4- (16-20yrs                       5- (21-30yrs                       6- (over 30yrs

4.2 Were you or your family among the persons resettled during acquisition of site for construction of Thika Dam in the year 1984

- 1- Yes                       2- no

4.2 If (yes) how long have you lived in your current home after relocation from Thika dam site

- 1- (0-5yrs       2- (6-10yrs                       3- (11-15yrs                       4- (16-20yrs                       5-(21-30yrs                       6-(over 30yrs

**5 Perception by the affected persons about Government Resettlement programs**

5.1 Was there any form of compensation that was provided by the government the affected persons?

- 1- Yes                       2- no

5.2 If (yes) above, in what form was compensation (*more than one possible answer expected*)

- 1- Land for land       2- Cash for land                       3- Land and cash                       4- livelihood reinstatement measures                       5-others (specify)

5.3 In your own opinion, was the compensation provided by the government commensurate with the land / livelihood surrendered?

- 1- Yes                       2- no

5.4 If (no) above what was your expectation from the government in terms of relocation and compensation that was not fulfilled (*more than one possible answer expected*)

- 1- Bigger land than what was offered     2- More money than what was offered     3- Reinstatement of community assets / institutions that were submerged     4- Livelihood reinstatement measures     5- Livelihood restoration strategies in addition to compensation     6 enough time to relocate and salvage construction materials     7 others (specify)

5.5 How would you rate the government in the way resettlement and compensation was undertaken then 1984 on a scale of 1-5 where 1-represents very good and 5-represent poor as per the codification below

- 1- Very good     2- satisfactory     3- good     4- fair     5- poor     6 others specify

5.6 please provide a narrative explanation for your answer in question (5.5) above

## **6 Project Affected Persons Participation in Resettlement Process**

6.1 Did the local community and the project affected persons participate and involve adequately in the resettlement process?

- 1- Yes     2- no

6.2 if (no) in question 6.1 above, please provide an explanation for your choice

6.3 If (yes) in question 6.1 above, what was the form of participation and involvement

- 1- Project affected person's representation in compensation committees     2- representation by independent committees appointed by the affected persons  
 3- Representation by representatives of the local administration (chiefs and village heads)     4- Other (specify)

6.4 If the answer in (6.1) above is yes, were the committees represented in terms of gender, youth, elderly and person with disabilities.

- 1- Yes       2- no

6.5 How often were meetings, workshops, public barazas and seminars organized by the team that was spearheading the resettlement and compensation with the affected persons?

- 1- Only once or twice       3- weekly     4-monthly     5- quarterly     6 never organized

6.6 How were community and other stakeholders opinion and suggestions in cooperated in the resettlement process be the responsible authority

- 1- In cooperated in the reports and implemented on the ground     2- In cooperated in the report but never implemented on the ground  
 3- Never in cooperated

6.7 Then how were grievances and complains resulting from the entire process handled by the government authority that was handling the resettlement process.

- 1- Through a Grievance redress mechanism (committee)     2- Complain to the authority and Strike and demonstrate     3- Did nothing

6.8 Did other stakeholders and like Churches, Non Governmental Organizations, Community Based Groups, Human rights lobby groups

- 1- Yes       2- no

## **7 Social and Economic Impacts of Resettlement to the Project Affected Persons**

7.1 Did the government through the relevant authorities or consultancies conduct any social economic survey to the community and the project affected persons prior to resettlement

- 1- Yes       2- no



7.2 Kindly mention some of the social amenities and assets that were affected by the acquisition of the area (*more than one possible answer expected*)

- 1- Market    2- church    3- schools    4-health centers    5- cattle dips    6 worship area,    7 grave yards    8 circumcision bushes
- 9 play grounds    10 bridges

7.3 Socially, did the resettlement process affect you or your family in the following social aspects as per the codification below (*more than one possible answer expected?*)

- 1- Education    2- Occupation    3- Health    4-Economic status    5- Housing    6 religion    7 social networks    8 others specify

7.4 please provide a narrative explanation for the choices in 7.3 above.

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7.4 In the codification below, which were you or your family's assets that were affected or acquired during resettlement of the project affected person?

- 1-land    2-crops and trees    3- Business    4-Livestock    5 others specify

7.4 How was the mode compensation of the affected assets?

- 1- market rate    2- full replacement cost    2- not sure

7.4 were the affected persons given an opportunity to raise their concerns or negotiate on the compensation issued

1- Yes                       2- no

7.5 You or your family how did you invest the compensation package received from the government for your assets that were taken up by the dam

1)  1-bought an equivalent land parcel     2-started a business             3- bought an equivalent land parcel and started farming             4- Pay school fees for children     5 Migrate to the city and start a new life.     6 Others (specify )

7.6 In your own opinion do you think you life or that of you family was adequately restored to you original state after compensation and resettlement

1- Yes                       2- no

7.7 kindly explain you answer (above)

## **8 Coping Strategies as a remedy to Impacts of Resettlement**

8.1 Were there any restoration initiatives spearheaded by the government to the affected families or persons as per the codification below

1- Training on accountability and investment     2- business incubation centre's established     3- relocation assistance     4- offered PAPs casual employment during construction of the Dam     5- assisted to salvage material and transport to new home     6- allowed reasonable time for the PAPs to look for land and construct their houses before moving.     7- others specify.

8.2 You as an individual or you family, what measures did you put in place to make sure that you reestablish after resettlement?, Kindly list

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8.1 Kindly share your view which you feel the government should undertake in order to ensure that resettlement is undertaken in a manner that it does not negatively impact on peoples livelihoods

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