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THE EFFECT OF INVOLUNTARY RESETTLEMENT ON THE QUALITY OF LIFE OF PROJECT AFFECTED PERSONS: A CASE STUDY OF MWEA IRRIGATION PROJECT, KIRINYAGA COUNTY, KENYA

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DECLARATION

I hereby declare that this research project is my original work and has not been presented for the award of a degree in any other university.

Signature_____Date_____

Irene Wanjiku Muchoki

This research project has been submitted for examination with my approval as the University Supervisor

Signature_____Date_____

Prof. Edward Mburugu

Supervisor

DEDICATION

I dedicate this project to my husband and sons for their patience and encouragement that they offered me during the period of study at University of Nairobi and while preparing this research report.

In addition, this report is dedicated to my Dad and Mum who have been all - time source of my confidence and encouragement and have always believed that I have and will make it in life.

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AfDB	– Africa Development Bank
IDAM	– Integrative Dam Assessment Model
JICA	– Japan International Cooperation Agency
NIB	– National Irrigation Board
PAPs	– Project Affected Persons
PMBOK	– Project Management Body of Knowledge guide
PMI	– Project Management Institute
SPSS	– Statistical Package for the Social Sciences
WHO	– World Health Organization

ABSTRACT

Kenya's Vision 2030 (Republic of Kenya, 2007) recognizes Mwea Irrigation Development Project as one of the major flagship projects under water and sanitation. Such projects necessitates involuntary resettlement of project affected persons. In order to present an accurate assessment of the effects of any development project, it is not only important that the impact of a development project is seen to be positive, project affected persons also ought to perceive this to be the case. This calls for a consideration of theories that relate project affected persons as stakeholders, their quality of life as the major dimension of analysis. The broad objective of the study was to establish the effect of involuntary resettlement on the quality of life of persons affected by the irrigation development project.

The study was conducted within the catchment area and downstream of Mwea Irrigation Development Project in Kirinyaga County. Data was collected from Kabare area and lower parts of Mwea in Kirinyaga South Sub-County where people were displaced by the project. Descriptive survey design was employed. The target population was 709 families displaced by the development project in Kabare and Mwea villages in Gichugu Constituency. This comprised 255 households who opted for land-for-land and 454 households who opted for cash-for-land compensation. The sample size was 146 project affected households. Stratified random sampling based on the choice of compensation was applied. Data was collected through administration of questionnaires to the project affected persons and Key Informant Interviews were held with area chiefs, project officials and representatives of the project affected persons. The data was analysed using descriptive statistical techniques such as mean and percentages. Data was analysed using SPSS version 20.

The findings showed that the resettlement process led to the improvement in quality of life of 79% of the respondents. The resettlement project positively impacted housing quality, income and environmental quality without significantly interfering with peaceful coexistence in the community, social relations or disrupting culture and tradition. The irrigation project was of importance to the project affected persons.

Future involuntary resettlement programs should adopt a bimodal approach to compensation whereby both cash and land are awarded as compensation. Cash compensation should especially be provided in phases to help reduce cases of people wasting away the compensation money and becoming squatters on the site of the project. In case of partial compensation, the compensation policy should ensure that where the remaining parcel of land is uneconomical to the project affected person, the land should be fully acquired by the project and the owners fully compensated. Grievance committees should also be set to hear appeals made by family members and interested parties involved in resettlement disputes.

CHAPTER ONE: INTRODUCTION

1.1 Background

National development projects such as irrigation schemes are symbols of national progress because they bring economic prosperity (Varhade, Raje and Chafle, 2013). Such projects are important since their implementation and completion serves the common good of many people. This justifies the relocation and resettlement of project affected people that usually accompany the implementation of such projects (Singh and Yadava, 2003). Development projects offer better and sustainable employment and business opportunities to the community members. They also attract employment, investment and business opportunities from people living away from the project area. Irrigation projects ensure reliable food production throughout the year as the farmers do not necessarily rely on rain for their agriculture. Facilities such as schools, hospitals, road and water supply systems opened by the project, which gradually become an integral part of the lifestyle of project affected persons in the course of the time, enrich their quality of life (Singh and Yadava, 2003).

A global overview of development-induced displacement projects undertaken by Stanley (n.d.) suggests that the reality of national development impact is far from the ideal scenario speculated by Iorliam (2014) and Singh and Yadava (2003). In fact, the World Bank (2004) acknowledges that involuntary resettlement is one of the most severe impacts caused by development projects. Studies conducted throughout the world indicate that most development projects have adverse impact on the communities whose lives the projects intend to improve.

According to Thayer (2012), no country, from developed nations such as the United States to emerging economies such as China and India, can document that they have been able even to restore the incomes of majority of project affected persons. For example, an analysis of the effect of involuntary resettlement on farming households in two villages in the catchment area of a dam in China showed that the PAPs became more vulnerable to external shocks than they were before resettlement. They became more vulnerable as a result of loss of farming income which was not restored by increased off-farm income through paid work or self-employment, Wilmsen, Webber and Duan (2011)

The development project in question, known as Three Gorges Dam is reported to have displaced more than 1.2 million people (Stanley, n.d.).

The impact on the displaced often transcends economic factors and extends to political, social and cultural dimensions and include varied outcomes such as loss of identity, feelings of marginalization, impact on health and wellbeing (Chakravarty, 2010). In Africa, empirical studies have shown that infant mortality increase, for instance, rises sharply to 7.57% for children born further downstream in floodplain areas, as the reduced water level due to dam construction causes degradation of the wetland ecosystem which is crucial to household livelihoods.

Typically, the practice in most countries is to compensate involuntarily resettled persons at fair market value or at full replacement cost. Fair market value is the amount that acquired land could be expected to realize if sold in the open market by a willing seller to a willing buyer (Asian Development Bank, 2006). Full replacement cost is the total amount of money required for sourcing a supplier of the construction material, the cost of purchase and transporting of the material to the site, storing and guarding the materials while at the site and the costs of erection of the premises, including professional fees. In Africa for example, the legal framework provides for prompt compensation for any land taken at the prevailing market rate (Kenya), the market value (Cameroon) or the replacement value (Ghana, Malawi) (African Development Bank Group, 2003). However, what is often not considered is the "replacement of land and improvements, relocation and moving costs, costs to terminate and restart utilities and services, lost business revenue, squandered customer goodwill, and demoralization costs" (ADB, 2006, p. 142). According to Colson (2003), involuntary displacement and resettlement is now seen as an endemic phenomenon that affects the displaced, the host community where they are resettled, governments and international agencies which play an increasingly significant role in dealing with displacement.

Kenya's Vision 2030 (Republic of Kenya, 2007) which is the country's development blueprint launched in the year 2008 recognizes Mwea Irrigation Development Project as one of the major flagship projects under water and sanitation (Republic of Kenya, 2007). Conceptualization of the project however dates back to the mid-1980s (National Irrigation Board, 2014).

Mwea Irrigation Development Project was established as part of the government policy on food security and self-sufficiency. It is the largest rice irrigation scheme in Kenya, producing about 80 percent of all rice produced in the country (Rotter, 2004). It is composed of 450 square kilometers of rice paddy fields and the hamlets for the tenant farmers dependent on the Thiba and Nyamindi tributaries of the Tana River (Yohannes, 2009).

According to Shah, Van Koppen, Marna de Lange and Samad (2002), Mwea Irrigation scheme showed signs of success in the early years of its establishment. However, over time, mismanagement of the scheme led to the impoverishment of the farming community whose earnings were barely sufficient to satisfy basic subsistence needs. Yohannes (2009) argues that the scheme was plagued by corruption and the increasing shortage of water and land disputes leading to a total disrepair of the rice paddy fields as sections of the Mwea Dam's wall were crumbling, water canals got clogged with vegetation, the population of vector snails rose, malaria infestation grew and crocodiles threatened the rice growers. Consequently, the scheme was hit by a tenant rebellion in 1998 when farmers refused to deliver their rice to the National Irrigation Board (NIB) because of declining government services (Minot and Ngigi, 2004). Between the years 2003 and 2004, NIB reorganized farmers, rationalized water management system and took on board a further 3,200 hectares of out-grower areas besides the 6,000 hectares of initial Mwea Irrigation Scheme in order to rehabilitate and improve the irrigation scheme (International Monetary Fund, 2007).

Japanese Government through Japan International Cooperation Agency (JICA) supports the Mwea Irrigation Project by developing new irrigation infrastructure such as the canals, farm roads and drainage networks and maintaining the existing ones. JICA provides farmers at Mwea Irrigation Scheme with farming equipment such as tractors for farm preparations and offer them training on use of modern farming methods.

Information published by NIB (2014) indicate that in the year 2008, JICA provided financing for the updating of the Mwea Irrigation Development Project's Feasibility and Detailed Design studies. In Addition, JICA supported the preparation of an Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP) Reports. This led to the signing of a financing agreement between Governments of Kenya and Japan for the project which was signed on 16th August 2010.

By 2014, NIB had disbursed compensation payments for approximately 80% of the Project Affected Persons (PAPs) resettled from the Thiba dam site, who had opted for cash for land compensation for their acquired land while the remaining 20% of the PAPs were being sorted out as land acquisition and related disputes got resolved.

Irrigation development projects in Kenya are governed by the Irrigation Act Chapter 347. It is under this Act of Parliament that NIB was established and incorporated as a state corporation in the 1960s. There are seven national irrigation schemes that NIB is currently managing. These are: Mwea, Perkerra, Hola, Ahero, West Kano, Bunyala and Bura. In these schemes, NIB undertakes the development, operation and maintenance of irrigation infrastructure (NIB, 2014).

Recently, a Bill which seeks to amend and consolidate the law relating to sustainable development and management of irrigation in the country was presented in parliament. This bill establishes the National Irrigation Development Service as a successor to the National Irrigation Board, thereby assuming all its functions and powers including the development and improvement of irrigation infrastructure. The Bill specifies that in respect of land, the Cabinet Secretary shall, in accordance with the law relating to the compulsory acquisition of land, take such steps as may be necessary to acquire the right, title or interest in such land.

The Bill further provides for dispute resolution and specifies that disputes related to irrigation and drainage scheme development, management, water allocations and delivery, financing, property, operation and maintenance and other matters shall be resolved within the irrigation water users association or at scheme level wherever possible. However, no specific mention is made of project affected persons whose interest is not adequately addressed by the irrigation water users' association. This observation is reflected in research which show that, while the involvement of project affected persons in their development is widely acknowledged as a key step in sustainable development, very few such development projects in sub-Saharan Africa, and in Kenya in particular, takes into consideration the importance of involvement of local communities in the decisions associated with development projects that have a direct impact on them (Essendi and Madise, 2014).

1.2 Problem Statement

Involuntary resettlement projects create an unpleasant and undesirable displacement of people from their ancestral habitat, uprooting them from their immovable properties, their livestock wealth, religious and educational institutions (Varhade, Raje and Chafle, 2013). In the last few decades, there has been increasing recognition that the number of development induced involuntarily displaced people has become a global problem calling for investigation (Madebwe, Madebwe and Mavusa, 2011). Estimates from the World Bank Environment Department, as cited by Iorliam (2014), suggests that more than 250 million people worldwide have been displaced as a result of development projects. Further, more than 10 million people continue to be affected by development projects annually (Godamunne, 2013). Majority of such projects causes involuntary resettlement in that the affected people have been compelled by the authorities to move, whether they want to or not, and they have effectively no say in the matter (De Wet, 2006).

Involuntary resettlement should be a core part of the development plan of the project that necessitates and causes relocation and resettlement and not a secondary or after thought programme. The resettled persons should at least be economically and socially restored to their pre-resettlement state/ condition or left better off than they were before resettlement. However, De Wet observes that in the overwhelming majority of cases, most of the people displaced or resettled by development projects are still left worse off than before and suffer socio-economic impoverishment. Gogoi and Lahon (2014) support this view, arguing that development projects are characterized by social exclusion, alienation, higher growth in poverty, pressure on land and resources in nearby areas where development projects started and rise of anti-nationalistic feeling. According to Godamunne (2013), displacement and resettlement leads to economic and social vulnerability as a result of disintegration of social and family networks and temporary or permanent disruption of means of livelihood such loss of employment or business income.

Irrigation development and expansion have also been associated with environmental problems. Obudho and Ojwang (2000) observe that many people mentally relate irrigation projects to water-related diseases, disruption of families and indebtedness to financial institutions.

The other main health hazard in irrigation schemes as identified by Obudho and Ojwang (2000) is malnutrition among settlers and their families which often results from settlers growing more cash crops than food crops, reducing the human endeavor which may be put into productive work. Consequently, the efficiency deteriorates and intended prosperity is hampered by disease.

According to Ty, Van Westen and Zoomers (2013), the indirect impact of compulsory land acquisition may also be substantial. They suggest that in some cases, food insecurity is a serious problem arising from compulsory land acquisition and involuntary resettlement. They expound that social injustice arising from land acquisition is primarily related to inconsistencies in compensation policies both horizontally and vertically. They explain that the former refers to variations that exist in the type and amount of land loss compensation received between different affected people whereas the latter implies differences in compensation types and amounts over time. They observe that in spite of formal protestations, most forcibly displaced people are left poorer than before displacement.

Reports of previous studies by the World Commission on Dams (2000) for instance indicate lack of proper or inadequate recognition of full entitlements due to the affected persons usually lead to inadequate restoration for losses suffered during the resettlement process. Entitlements include cash or in kind compensations, notices to vacate the project areas after receipt of the compensation cash and other resettlement assistance availed to the resettled persons by the project implementers. As a result of lack of proper or inadequate entitlements, such development projects have often adversely impoverished the project affected people by leaving them without means of livelihood and social support systems.

Tortajada, Altinilek and Biswas (2012) maintain that when resettlement programmes are properly planned and implemented, they can lead to poverty reduction. They emphasize that resettlement programmes must be approached and planned for as part of the main development project that is necessitating displacement and resettlement and not as an after-thought programme. Since it is not possible to avoid involuntary resettlement altogether if a country is to attain national growth through infrastructure development, it is important to minimize or/and mitigate the identified risks and impacts for the benefit of the affected population.

However, Madebwe, Madebwe and Mavusa (2011) note that project implementers usually consider that their responsibility towards the resettled persons ends with payment of compensation cash. However evidence on development induced displacement and resettlement indicate that cash compensation alone is never adequate to allow for sustainable rehabilitation of communities uprooted from their ancestral land. These PAPs generally require resettlement assistance and in kind compensation alongside other resettlement assistance and cash compensation if they are to restore their socioeconomic status to pre-resettlement standards or better. Although the existing literature makes reference to observations made on the impact of development projects on project affected persons in developing countries, empirical evidence with respect to the outcomes of irrigation projects in Kenya is sparse.

A similar study was undertaken by Ndirangu (2014) who found that 54.4% of the households living around Thiba dam were not compensated for the acquisition of their land, 73% of the households were not involved in the negotiation process, and 72.6% of the households said that the compensation was not worthy the land's market price. While the results agree with the claim that development projects carry with them negative ramifications on project affected persons, the study was undertaken two years earlier than the planned completion date of the resettlement programme. According to JICA (2010), the completion of the Mwea Irrigation Development Project was scheduled for 2016. However, actual civil works for the dam construction have not started yet as there have been delays in the resettlement. Further, although the study by Ndirangu (2014) applied the Integrative Dam Assessment Model (IDAM), this limited the discourse to a few dimensions underpinning research on involuntary resettlement projects.

Currently, nearly all the projected affected persons have vacated the Thiba dam area and resettled elsewhere. It is important to undertake an assessment of a project at least upon completion or near completion so that careful evaluation of the project's impacts, risks and benefits is conclusive. The project affected persons need to tangibly perceive and appreciate the benefits of a project and not just assumed that they benefited from the project. Several projects that cause involuntary settlement tend to benefit other people away from the project area who were not necessarily resettled while leaving the affected people having nothing to show for the displacement and resettlement activities.

Extending research on the impact of irrigation development projects on Kenyan communities, this study considered the Integrative Dam Assessment Model, Stakeholder View and Social Capital Theory in empirically analyzing the socioeconomic outcomes of involuntary resettlement on communities within the catchment area and downstream of the Mwea irrigation project.

1.3 Research Questions

The study sought to answer the following questions:

i. What is the relative change in quality of life of persons affected by Mwea Irrigation Development Project?
ii. How much value do project affected persons attach to Mwea Irrigation Development Project?
iii. What is the relationship between socioeconomic factors and perceived quality of life of project affected persons?
iv. Are there any unexpected outcomes of resettlement experienced by project affected persons due to Mwea Irrigation Development Project?

1.4 Objectives of the Study

1.4.1 Broad Objective

The broad objective of the study was to establish the effect of involuntary resettlement on the quality of life of persons affected by Mwea Irrigation Development Project.

1.4.2 Specific Objectives

The specific objectives that guided this study were:

i. To assess the relative change in quality of life of persons affected by Mwea Irrigation Development Project
ii. To examine the relationship between socioeconomic factors and perceived quality of life of project affected persons.
iii. To determine the perceived value of Mwea Irrigation Development Project to the project affected persons.
iv. To establish the unexpected outcomes of resettlement experienced by project affected persons due to Mwea Irrigation Development Project.

1.5 Justification of the Study

Involuntary resettlement is an important aspect of successful management of development projects. Therefore, this research would be useful to both the National Irrigation Board and the Mwea Irrigation Development project managers as it would provide an objective evaluation of success and future prospects for sustainability of the project. The findings of the study would provide evidence-based data for clearly defining project scope. Further, research on the area of involuntary resettlement necessitated by development projects in Kenya is still nascent. Therefore, further researchers who wish to investigate theoretical assumptions might find this study useful as a reference point.

1.6 Scope and Limitations of Study

The scope of the research encompassed the assessment of the relative change in quality of life, examination of the relationship between socioeconomic factors and the perceived quality of life, determination of the perceived value of the development project and establishment of any unexpected outcomes of resettlement experienced by the persons affected by Mwea Irrigation Development Project.

The study was conducted within the catchment area and downstream of Mwea Irrigation Development Project in Kirinyaga County. Data collection was limited to households in Gichugu and Mwea Constituencies who were resettled from where the water reservoir was to be constructed.

A major limitation was language barrier since the instrument was designed in English. For this reason, the use of data collection assistants well versed with the language, culture and communities under study was made.

1.7 Definition of Key Terms

Involuntary Lack of prior and informed consent and power of choice on the people directly affected by land acquisition and loss of productive assets to pave way for development projects.

	The project proponents decide where and when to construct a developmental project and when plans are at an advanced stage they involve the occupiers of the land and owners of the assets on such land. The chances of changes of such plans to suit the wishes of the affected people is usually marginal
Involuntary Resettlement	Forced displacement or relocation of persons from the sites identified for development projects. It involves partial or total physical displacement of individual households or entire communities from the former settlement areas to resettlement areas. It also involve economic and social displacement where the displaced and relocated people loss their economic income streams and social capital respectively.
Project Affected Persons	People impacted directly or indirectly by development projects, who have formal legal rights to the land they have been displaced from or have claims to such land and the standing assets they have put up and crops and trees they have planted on such land. Project affected persons include squatters who have no legal claim to the land they occupy but have rights and entitlement to the standing assets they have put up and crops and trees they have planted on such land. Project affected persons include people who lose their means of livelihood such as loss of business or employment incomes in the process of resettlement
Perceived Quality of Life	Individual perception of their position and satisfaction with life in the context of the culture, social and family value systems, available physical and social amenities and economic empowerment opportunities in the environments and areas in which they live and in relation to their goals, expectations, standards and concerns
Salience of project	Importance of positive and negative impacts of project to the people affected by it.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Review of Empirical Literature

Jaysawal (2013) investigated the impediments in the path of resettlement and rehabilitation programmes and adoption of good practices for successful resettlement and rehabilitation by reviewing selected development projects in China. The review revealed that the scenario of resettlement and rehabilitation signified more than a mere physical relocation and the provision for compensation alone could not justify the involuntary resettlement successes. This means that within the resettlement equation is a complex mix of issues that go beyond, and perhaps, redefine the meaning of compensation as should be interpreted in the context of development projects. This section discusses themes such as the effect of involuntary resettlement on sources of livelihood and employment, poverty, social equity, environment (air, soil and water quality), housing, health and sanitation, social and cultural ties, cohesion and security, and educational facilities.

2.1.1 Effect of involuntary resettlement on livelihood and employment

Ty, Van Westen and Zoomers (2013) examined compensation and resettlement policies after compulsory land acquisition for hydropower development project in Vietnam. Their findings showed that ineffective compensation measures and a lack of production land and livelihood alternatives accelerated the resistance of communities displaced as a result of hydropower development. This finding underscores the importance of income restoration programs as part and parcel of the involuntary resettlement package.

Ahsan (2007) explored the impact and effects of resettlement on the economic life and livelihood of the people affected by involuntary resettlement in Jamuna Bridge Project in Bangladesh. The findings showed mixed outcomes. Despite adoption of a generous resettlement action plan for the project, the project affected people were not able to reconstruct and restore completely their pre-project living standards in the post-project stage as reflected in their inability to regain the amount of land lost due to acquisition.

However, considerable successes were also attained in other dimensions as there had been a marked increase in the average annual income of the indirectly affected households while the directly affected households were able to virtually restore their status of pre-project income.

Thus, it can be inferred from Ahsan's study that persons indirectly affected by the project were the greatest beneficiaries of the development project while those directly affected realized gains and losses. Through a study which departed from the common theme that has characterized most involuntary resettlement studies, Phonepraseuth (2012) empirically tested claims that the risks associated with resettlement can be avoided or managed by careful planning that includes livelihood development initiatives for the affected populations based on the case of Nam Theun 2 Hydropower Project in Laos, Asia. The findings indicated that the resettlement and livelihood restoration programs increased access to various livelihood assets and resources. The settlers were supported and hence gained a number of positive livelihood experiences that went beyond economic or monetary gains. This was evident through increased income and access to employment opportunities which were found to be fundamental for resettlers in realizing their own livelihood goals and objectives. The findings of this research identified some challenges experienced by the PAPs such as reduction in farm size; agricultural and grazing land areas. However, none of these challenges were perceived to be major threats that were preventing them from achieving their livelihood objectives.

Sakwa (2015) undertook a study to determine the social and economic aspects associated with involuntary resettlement during construction of infrastructure projects based on a case of Thika Dam Project Affected Persons. The study found that perception of PAPs regarding government resettlement process was negatively influenced by the way the resettlement process was handled; with majority of the respondents complaining that compensation was not commensurate to assets acquired. The resettlement process led to loss of livelihood and disruption of education.

With respect to irrigation related development projects, Ndirangu (2014) undertook a study which focused on the effects of land acquisition, social disruptions and provision of social amenities on the livelihoods of persons affected by the Thiba Dam construction process in Kirinyaga County in Kenya.

Regression results in Ndirangu's study showed that 51.3% of household livelihood could be explained by households living around the dam; 36.4% of their livelihood could be explained by social disruption caused by Thiba dam construction; 15.3% their livelihoods could be explained by compensation offered to households by the dam constructors and only 1.4% of the household livelihoods could be explained by social amenities provided by the implementers of Thiba dam construction project. These findings suggest that the livelihoods of the project affected persons revolved around the land from which they were displaced and their social lives which were disrupted.

2.1.2 The effect of involuntary resettlement on the state of poverty

Varhade, Raje and Chafle (2013) studied rehabilitation and resettlement of project affected persons of Gosikhud Project in Maharashtra State whereby they made comparison between rehabilitated villages and affected villages in terms of area and population density, status of civic amenities, plot sizes, construction cost of houses and landownership. They found that the physical compensation given to PAPs was sufficient and rehabilitated villages were well planned in order to start new habitat for the people. This finding contradicts the results of a study undertaken by Godamunne (2013) in Colombo where the impacts of relocation on sources of livelihoods was significant. The disruption of means of livelihood such as loss of employment and business incomes lead to increase in poverty levels and impoverish areas which were not previously impoverished. This raises the question as to whether involuntary resettlement outcomes were context specific. At best, the inconsistency between the two studies suggests that empirical evidence is inconclusive.

Kumar (2013) undertook a sociological study of poverty issues in displacement based on a case of Baglihar project in Indian State of Jammu and Kashmir. The findings indicated that women lose many advantages they had enjoyed in their original place of residence without receiving tangible benefits in exchange. This suggests that the problems that characterize involuntary resettlement in development projects are gendered. The implication of this finding for policy and practice is that rehabilitation and livelihood restoration should be sensitive to gender disparities and special consideration needs to be made on displaced women in the community.

Similar trends as seen in most studies in Asia are reflected in empirical evidence from Africa. Iorliam (2014) undertook a post resettlement appraisal of the socio-economic conditions of Gbagi People in Kubwa, Federal Capital Territory Abuja, Nigeria. The study analyzed socio-economic variables such as education, employment, income and social welfare/communal relationships.

The results showed that the Gbagi people resettled in Kubwa were socio-economically worse off than they were in their original villages as the opportunities for education were lost and there was high unemployment rate and dwindling household incomes occasioned by dislocation from traditional farming occupations. The findings of this study are supportive of the report by Godamunne (2013) in Colombo.

2.1.3 The effect of involuntary resettlement on social equity

Raschid-Sally, Akoto-Danso, Kalitsi, Ofori and Koranteng (2008) analyzed the resettlement issues arising out of the Akosombo and Kpong resettlements in Ghana. The paper showed that there were far reaching human problems and challenges with the Akosombo scheme. Specifically, retaining a stable social structure posed a dilemma in the face of affected people seeing in resettlement an opportunity for progress and development defined in terms of western style innovation. The study established that participation of the affected people was superficial or treated as unimportant by those responsible for the project. These results are consistent with the findings of Iorliam (2014) in Nigeria.

A thematic review of resettlement and rehabilitation programs within the context of development projects as undertaken by Bartolome, De Wet, Mander and Nagraj (2000) revealed that in resettlement programmes where compensation packages were negotiated with PAPs and other stakeholders, the process resulted in better outcomes for the resettlement process as a whole. Bartolome *et al*. found that even when, for whatever reason, the negotiated form of compensation proved not to be the most appropriate or effective option, PAPs tended to feel more satisfied, as a result of the negotiation process. This finding implies that stakeholders like to perceive that they had a say in the decisions that affected their lives. However, the results of the thematic review also showed that the land acquisition laws protected the sanctity of the development project that causes displacement but not the sanctity of the rights of the displaced persons.

Devitt and Hitchcock (2010) assessed the degree to which project affected persons in the Lesoth highlands were actively engaged in planning and decision-making regarding their own resettlement and rehabilitation from Lesotho's Mohale Dam; and the extent to which public participation contributed to their subsequent welfare.

The research noted that while the planners were acutely aware of the unforeseen effects that other resettlement programs in the country and worldwide had had for their subjects and devised a program intended to avoid the same pitfalls, the outcome of their well-meant efforts was far off the mark. Specifically, the report noted that the Mohale Dam resettlement program was elaborately planned, generously funded and closely monitored to ensure that, as far as possible, none of the PAPs ended up worse off than before. However, the outcome showed that only the strong prospered while the weak could not withstand the social, cultural and economic disruption of forced removal. This report thus continues the now familiar negative narrative about involuntary resettlement in development projects.

In contrast to the findings in Ghana, Nigeria and Lesotho, a study by Luzinda (2008) which sought to establish the effect of involuntary resettlement on people's livelihood in Uganda report that there were positive effects to livelihood. However, the resettlement project in question was a conservation effort which involved dislocating people from Mt. Elgon National Park. The research found that different groups had different perceptions of involuntary resettlement depending on the interests underlying their position. Many people in this study were willing to move away in order to protect the ecosystem at the Park. It was noted that it was not the physical removal of the people from the park that led to deterioration of some livelihoods, but rather, the exclusion from resources that support their economic and production systems.

In Kenya, research on involuntary resettlement in development project was conducted by Sakwa (2012) based on the case of Thika Dam. 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 findings showed that the main impact caused by resettlement process was loss of livelihood.

The loss negatively impacted on all the social and economic attributes namely; 86% of respondents suffered disruption in education. Since most of these disruptions are inevitable, an assessment of the impact of involuntary resettlement in development projects cannot be complete without analyzing the socioeconomic gains might have compensated them.

2.1.4 Environmental impacts of involuntary resettlements

Terminski (2013) noted that a usual consequence of development projects is progressive land degradation in their vicinity. Terminski argues that creation of large dams significantly affects the landscape, ecology, and animal populations. For example, the construction of a dam lead to water pollution along the river's entire course and thus to deterioration in the economic situation of local residents. Further, environmental problems are a common consequence of exploitation of mineral resources, in particular through the creation of large open-cast mines. The environmental costs of development projects therefore lead to a significant decline in the living conditions of many communities.

Kamakia (2015) assessed the resettlement process based on a case study of Olkaria IV Geo-Thermal Project. The location of the project is home to an indigenous Maasai population that had to be removed and resettled elsewhere. The data collection process on resettlement action plan included site visits, air and noise dispersion modelling, a census, a social survey, land and asset valuations and consultative meetings with PAPs. Overall, Kamakia observed that the implementation of the resettlement process was carried out with utmost professional standards and consultations and budgetary resources were allocated for construction of housing and other social amenities for the PAPs. Families were temporarily relocated during the construction phase and later were fully resettled at the main resettlement site that was agreed by the community members.

The anticipated environmental and social impacts therefore for the most part, had low significance. He concluded that the resettlement programme was a salient example of successful resettlement management practice of PAPs in Kenya.

2.1.5 The effect of involuntary resettlement on housing quality

According to Cernea (1999), underestimation of costs and the resulting unavailability of resources have often led to poorer housing quality or to providing prepared lots rather than finished houses. Ty *et al*. (2013) examined compensation and resettlement policies after compulsory land acquisition for hydropower development in Vietnam.

Through focused group discussion, they found that the investor and the district organised meetings with project affected persons and made many promises. Among these were that affected households would receive similar houses and plots as in the former village. In addition, the resettlement site would have sufficient electricity and an adequate water supply for drinking and agriculture. Households would also be allocated between 1.5 and 2 ha of land for farming and agro-forestry. However, over 83 percent of households expressed strong disappointment about unfulfilled promises; with many complaining of poor housing quality and lack of repair work by the investor. In contrast, Ahsan (2010) found in his study that the quality of housing for the displaced people improved.

The relationship between housing and culture was highlighted by Schmidt-Soltau (2003) who discussed a set of potential risks from involuntary resettlement. One such risk was the risk of homelessness where they found that habitations which are suitable for a hunter-gatherer lifestyle are not suitable for resident farmers. He argues that this poor housing contributes to declining health and growing resentment of the resettlement process. They recommended that new communities of resettlers should receive housing, infrastructure and social services comparable to those of the host population.

2.1.6 The effect of involuntary resettlement on health and sanitation

Terminski (2013) reviewed involuntary resettlement process with respect to Konkola copper mines in Zambia in which 750 people from 143 households had been resettled. They found that project affected persons and residents were given access to social services including schools, a health centre, water supply and sanitation. This is consistent with the research by Ahsan (2010) found that programs like providing affected persons with access to health services, drinking water and sanitation were very successful.

Similarly, Phonepraseuth (2012) found that resettlers gained a number of positive livelihood experiences including social and psychological benefits such as better health care and education, and an improved sense of security and self-esteem.

In contrast, a study of involuntary resettlement in Cambodia by United Nations Human Rights (2012) revealed that many people interviewed complained about their deteriorating health at resettlement sites. The lack of safe drinking water, of proper sanitation, as well as over - crowding at most resettlement sites, all contributed to deteriorating health conditions and increased vulnerability to opportunistic diseases and the spread of infectious diseases throughout the community.

2.1.7 The effect of involuntary resettlement on social and cultural ties

According to Terminski (2013), development induced involuntary resettlement do not involve the complete transformation of previously inhabited areas, so that displaced people can live in the immediate vicinity of their previous residence and are better able to maintain their social ties and cultural traditions. Typically, indigenous peoples who for many generations were organically linked with their land are suddenly displaced and forced to change their social ties significantly as the relocation very often entails loss of access to common property such as pastures, rivers and forests, thereby precipitating cultural upheaval. Often, physical disintegration of the community is the first step in the negative processes leading to full disarticulation of existing social ties. For example, the study in Kenya by Sakwa (2012) found that all the respondents lost social networks and amenities including markets and worship centers. Terminski (2013) argues that the ability to maintain existing social ties in the new environment contribute to better and faster adaptation; underscoring the importance to resettle whole communities into areas similar to those abandoned, which can allow reconstruction of accustomed modes of functioning.

2.1.8 The effect of involuntary resettlement on social cohesion and security

According to Turtianien (2012), social upheaval that results from involuntary resettlement in development projects creates profound discontinuity to the order and predictability that culture has brought into daily life and social situations. Consequently, traditional systems break down and when cultural protection and security fail, the problems of project affected persons are related to cultural disintegration.

A review of literature by Terminski (2013) suggested that the main cause of human security problems affecting the displaced is landlessness and limited access to resources on which the communities depend. This in turn leads to extermination of previously cohesive communities.

It is generally observed that once communities are resettled they often remain weak and disorganized as a result of divisive negotiation practices prior to eviction and; while community members may help each other, share or borrow food from each other, there is often no strong sense of community support and few mutual help networks (UNHCR, 2012). A study undertaken in Cambodia by this author found that community cohesion and participation at resettlement sites was generally weak. The author observed that social integration was rarely taken into consideration in resettlement plans.

2.1.9 The effect of involuntary resettlement on educational facilities

The study by UNHCR (2012) in Cambodia identified interruption of education as a key issue faced by parents and their children in development-induced resettlement projects. The research noted that some children had to drop out of school temporarily, while parents waited for the transfer of school records to the new school. Other children continued going to their old school, staying in most cases with relatives or friends. This put an extra burden on the children's relatives as they must pay the extra costs for children to continue schooling in the old school. It also causes children to be separated from their families. The study by Sakwa (2012) similarly showed that 88 percent of the PAPs affected by the Thika Dam construction suffered disruptions in education.

The review of empirical literature indicates that most research on involuntary resettlement within the context of development projects have been done in Asia and a few empirical researches have also been done in Africa. With the exception of a few case studies, nearly all other empirical evidence showed that the impact of involuntary resettlement in development projects was either negative or mixed. In majority of the cases, the focus has been on dam construction. While most of these dams are constructed with intention to conserve water or generate electricity, little systematic research inquiry of involuntary resettlement with respect to irrigation development projects exists. In particular, research done in Kenya is very sparse.

As Prasad (2015) observes, every case of development induced displacement is unique and requires separate strategy for resettlement and rehabilitation of project affected persons. This necessitates the current study to assess the impact of involuntary resettlement actions taken by the government of Kenya on persons affected by Mwea Irrigation Development Project.

2.2 Theoretical Framework

2.2.1 Stakeholder View

The definition of stakeholders according to the Project Management Body of Knowledge Guide (PMBOK) is that stakeholders are persons or organizations who are actively involved in the project or whose interests may be positively or negatively affected by performance or completion of the project and may exert influence over the project, its deliverables and its members (Project Management Institute, 2013).

The stakeholder view depicts specific individuals or groups in the project's environment as not only being the constituencies with which the project developers must interact, but rather as individuals or groups who have definite stakes or interest in the project who must be regarded as integral part of the project rather than external constituencies (Golembiewski, 2000). It is critical for the project implementers of the development project to identify relevant stakeholders and to determine their needs and expectations so as to manage and influence them and give reasonable direction to those expectations and ensure a successful project by reducing conflict and disappointments (PMI, 2013).

Stakeholder views at various forums are significant for successful implementation of resettlement plans and the overall development project (Africa Development Bank, 2003). The World Commission on Dams (2000) hold that joint consultation and negotiations with the project affected people helps in formulation and implementation of a resettlement plan where all the entitlements due to each category of PAPs are outlined. An income and livelihood restoration plan is hence worked out to ensure that the resettled people are able to restore their pre-resettlement economic and social status or make them better off. It is the responsibility of the state through its respective departments to ensure that the development project does not leave the displaced and resettled people worse off than they were before resettlement.

While there can never be a 100 percent satisfactory resolution to involuntary resettlement, timely and continuous communications between developers and those affected, adequate compensation and efforts to ensure that the disruption is balanced by some direct benefits from the project can mitigate any negative social impact to a large extent (Singh and Yadava, 2003). Although citizens have a right to claim developed infrastructure from the government, the people displaced and resettled to pave way for such developments also have the right to have the impacts likely to affect them avoided, minimized or mitigated. Some of these negative impacts include the loss of economic, social and political rights and arbitrary evictions (Godamunne, 2013).

The necessity of paying due attention towards stakeholders stem from the failures of projects because of problems with stakeholders or communication as they have different claims and influences towards the success of the development project and so can contribute decisively to its success or failure (Neu, 2013). It is thus the responsibility of project managers to address the needs and expectations expressed by the project's stakeholders and be concerned with how decision making is exercised (Atkin and Borgbrant, 2009).

According to Keck (2010), a prosperous economy, quality environment and social equity are the three project outcomes that define quality of life. The displaced and resettled project affected persons should therefore enjoy the prosperity that accompany the development project that displaced them, are settled in decent resettlement areas with quality environments and proper physical infrastructure to support a better quality life than the pre-resettlement one. Since displacement and resettlement are economically and socially disruptive, those who make a personal sacrifice for the greater good of many in the national interest should be assisted to re-establish their lives to pre- resettlement state or better. (Godammune, 2013).

2.2.2 Social Capital Theory

Forced migration studies favour the definition of social capital set forth by Bourdieu and Wacquant (1992) which conceptualizes social capital as the sum of resources that accrue to an individual or group by virtue of possessing durable network of more or less institutionalized relationships of mutual acquaintance and recognition.

The basic idea of social capital, as explained by Woolcock and Narayan (2000), is that a person's family, friends, and associates constitute an important asset, one that can be called on in a crisis, enjoyed for its own sake and leveraged for material gain. The central assumption of the theory is that trust, social engagement and cooperation among local people contribute positively to economic development (Midgley, 2013). Englebert (2002) suggests that social capital theory makes government and institutional effectiveness a function of a country's features of social organization such as trust, norms and networks that can improve the efficiency of society by facilitating coordinated actions.

Englebert (2002) argues that social capital theory has become a popular and promising field of research in development studies and has entered the world of policy implementation. Consistent with this theory, a growing consensus in research findings suggests that involuntary resettlement tears apart the existing social fabric where poor households can draw different forms of resources for survival or sustenance (Quetulio-Navarra, Niehof, Van der Vaart, Van der Horst and Suliyanto, 2012). This influences views such as that held by Prasad and Goel (2000) who propose a raft of points that must be kept in mind when developing any resettlement package.

These include: the affected people should be moved as a community without disturbing their socioeconomic fabric, the quality of life provided to them at new sites should be comparable with the people benefiting from the project,
the compensation package should not only include cash payment for assets but also access to natural resources, where the displaced persons are resettled among the existing communities, there should be a proper integration of the two communities, and there must be a proper representation of the PAPS in various planning and enforcement groups. Godamunne (2013) concurs, and adds that consultative and participatory measures and efforts should be instituted and executed so as to assist affected persons to economically and socially integrate with host communities at the resettlement areas. This efforts can be made more effective by holding joint meetings between the resettled people and the host communities at the resettlement areas. Common property resources, community and public services and physical infrastructure/ amenities should be provided to both the resettled persons and the host communities so as to enhance cohesion between the two groups.

2.2.3 Integrative Dam Assessment Model

Credited to the works of Kibler, Tullos, Tilt, Magee, Foster-Moore and Gassert (2012), the Integrative Dam Assessment Model (IDAM) recognizes that there is need for transparent, consultative and participatory processes that adequately avoid, minimize and mitigate by compensating for negative impacts, risks and losses associated with of large dam development projects. Kibler *et al*. (2012) propose IDAM as a research and data visualization tool that allows decision makers to query and observe dam costs and benefits across socioeconomic, geopolitical and biophysical systems. One of the merits that its proponents identify is that the model is a participatory process where objective impact of development projects is tempered by subjective valuation of the projects' importance to directly affected persons and relevant project stakeholders. The model also enables interdisciplinary dialog to develop a multi-objective approach to the assessment of dam-related development projects (Chen, Chen and Fath, 2013).

According to Kibler *et al*. (2012), the IDAM model conceptually evaluates objective measures of the magnitude of dam effects and the salience of effects by relevant project stakeholders. The argument for this is that the project's impacts may be great but its stakeholders assign little importance to that greatness; while impacts of insignificant magnitude may be highly valued by the stakeholders. Kibler *et al*. (2012) recommend that application of the model should proceed in three stages.

The first stage is to quantify impact magnitudes to illustrate potential impacts using indicators of impact such as: facilitated transportation across communities, disrupted social cohesion/networks, access to educational opportunities, increased prevalence of water-borne diseases, better job income opportunities and/or decreased income, better quality housing, inadequate resettlement compensation, increased economic value of land, increased tension with host community, local air quality. The second stage is to collect corresponding salience information from project stakeholders. The third stage is to visualize and discuss the data so as to allow decisions makers to identify priority issues associated with an individual dam.

2.2.4 Best Practices for Successful Involuntary Resettlement

The general principle propagated by Advocates for International Development (2012) is that PAPs should at least be restored to their pre-resettlement social and economic conditions or left better-off than they were before resettlement. The policy framework for Africa Development Bank (2003) stipulates that resettlement plans should be based on a development approach that addresses issues of the livelihood restoration and living standards of the displaced persons. The people earmarked for resettlement should be consulted with from the design of the development project itself to the design of the resettlement program and to the implementation of both. Godamunne (2013) holds the view that resettlement implementing plan should compensate for all affected fixed assets and common property resources, restore living standards, livelihoods, social networks of the affected people. In his view, compensation at replacement value is the first step to economic recovery of affected persons with regard to land and housing. This is however not usually implementable due to the time lapse between the valuation of the affected assets and the time the compensation money is received by the affected households. Secondly, the practice of paying compensation in installments results in difficulties in purchasing and replacing affected properties. For example; a person who is paid for the standing assets such as houses before they are paid for the acquired land would have nowhere to put up the houses and hence would have to wait for the next installment of the compensation money or get loan. This time lapse and uncertainty on when to receive the next disbursement usually disorganize the PAPs in the resettlement process. According to Africa Development Bank (2003), the key to a development-oriented resettlement scheme is to identify the impoverishment risks of a project so as to avoid, minimize or mitigate the identified risks and impacts for the benefit of the affected population.

The World Bank (2004) observes that in most projects, a narrow emphasis on compensation for lost assets or mitigation of adverse impacts leads planners to overlook significant development opportunities. Especially when projects generate large-scale or severe impacts, the extent of disruption to community services or infrastructure may create an opportunity for community improvement. The compensation payments to individuals for such disruption is usually significant and with proper livelihood restoration advice and measures, the affected persons can diversify their income generation channels and hence improve their quality of life.

The project implementers could also use the funds paid as compensation for the affected community resources and amenities to construct or source for better ones than those that were affected by the project.

With respect to displacement, the Advocates for International Development (2012) note that land-for-land is the preferred resettlement strategy internationally. However, where this is not possible, adequate cash compensation needs to be provided. Most international organizations' policies require the rate of compensation for acquired land and structures to be calculated at fair market value and full replacement cost respectively.

2.3 Conceptual Framework

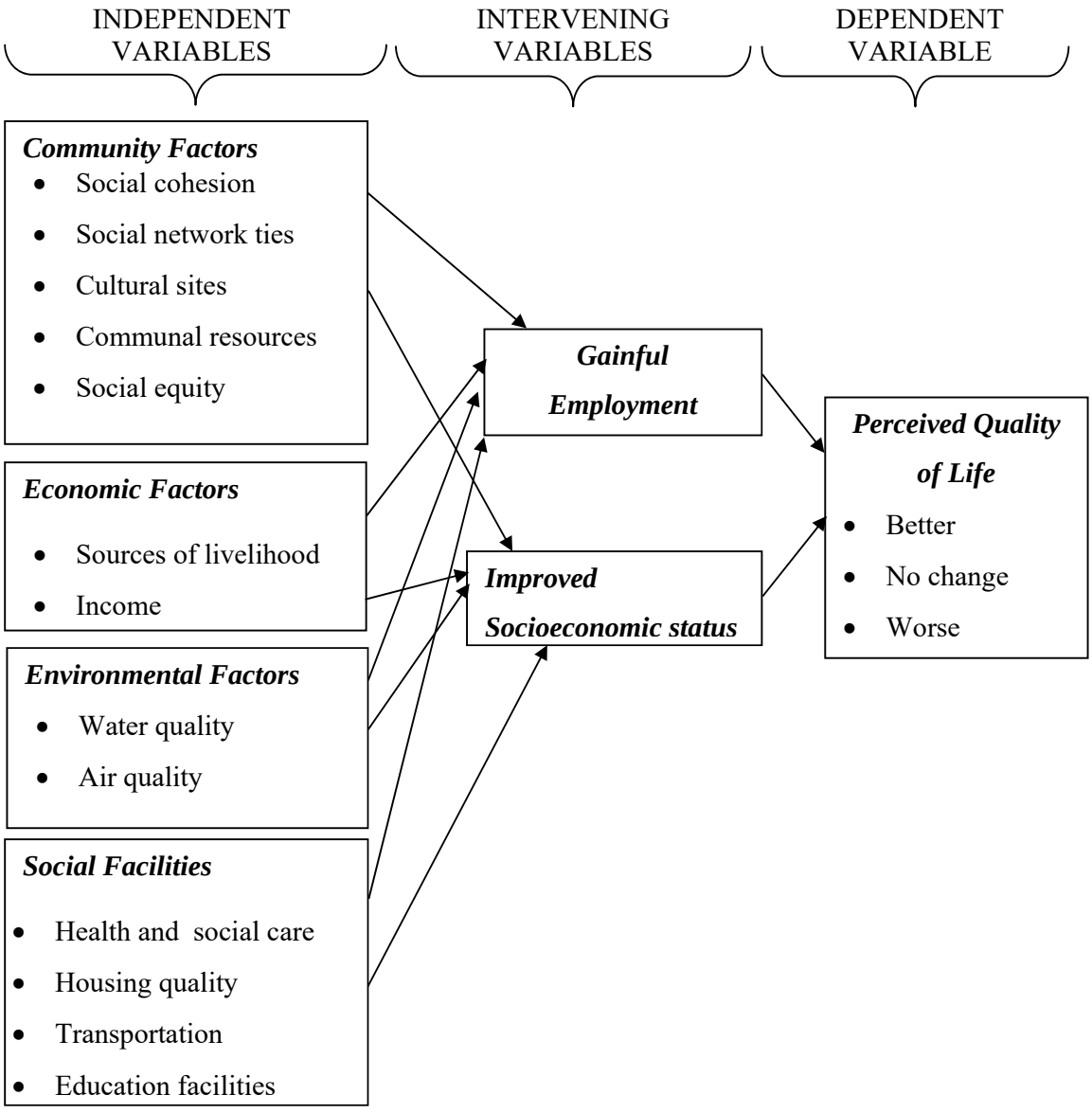
Drawing from both the theoretical and empirical review of literature, the following conceptual framework was used to undertake the study. The framework shows the relationship between the independent, intervening and dependent variables.

The conceptual framework (Figure 1) identifies thirteen aspects of community life that is potentially affected by development projects and categorizes them as independent variables. These are: social cohesion, sources of livelihood, social equity, income, social network ties, transportation, education facilities, cultural sites, communal resources, water quality, air quality, health and social care and housing quality. The project's effects on these factors are assumed to improve or worsen the quality of life of project affected persons. The independent variables were classified into community factors, economic factors, environmental factors and social facilities.

The community factors include social cohesion which is the set of characteristics and traits that make a group of people in a society able to function as a unit; for example how they perceive and appreciate gender roles and societal expectations. Social cohesion enables the project affected people to have a sense of belonging to their society and therefore take responsibility to sustain the unity of the society and to demand certain rights and privileges from members of that society. Social networks and cultural ties are a set of links, relations and shared norms and beliefs among members of a society respectively. They enhance interdependence and a common understanding among members of that society. Communal resources are shared among the community members mainly for economic advancement or welfare support. These include grazing areas, cattle dips, churches, hospitals and schools.

The economic factors include sources of livelihood and incomes which are the means by which household heads are able to support their families and ensure their wellbeing. Sources of livelihood and income are secured by having gainful and sustainable employment and/or profitable business opportunities. The environmental factors include water and air quality which have not been affected so far because the Thiba dam construction works have not commenced. Social facilities include health and social care, house quality, transportation and education facilities. These are the physical infrastructure that when present and in useable condition enhance the wellbeing, comfort, mobility and advancement of members of that society.

Figure 1: Conceptual Framework



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter details the blue print that was followed to undertake the study. The chapter describes the area of study, research design, unit of analysis and unit of observation, target population, sample size and sampling procedure, methods of data collection, ethical consideration and data analysis.

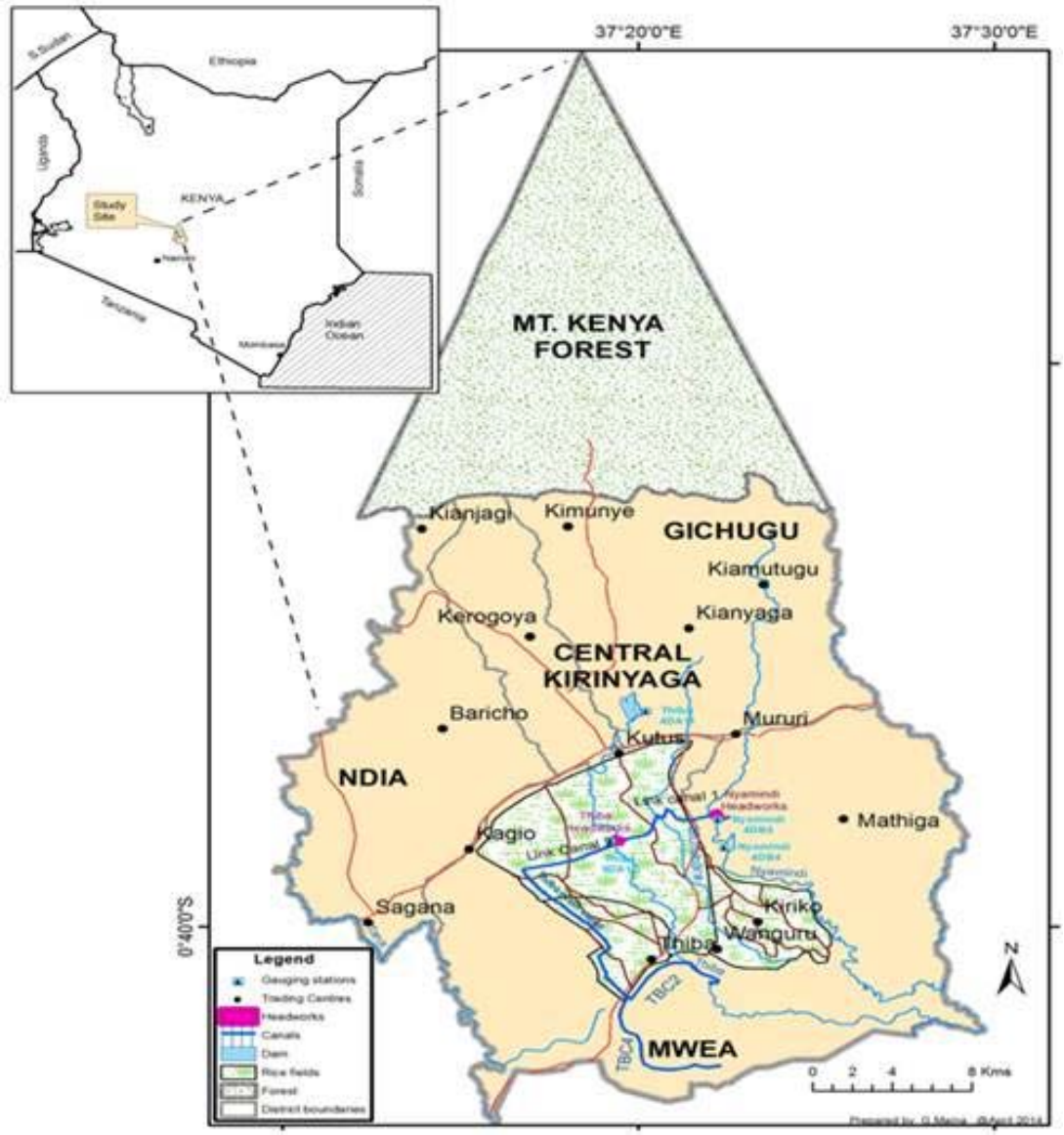
3.2 Area of Study

The study area is located in Kirinyaga County. According to County Government of Kirinyaga (2016), the county borders Nyeri County, Murang'a County and Embu County. It covers an area of 1,478.1 square kilometers and lies between 1,158 metres and 5,380 metres above sea level in the South and at the Peak of Mt. Kenya respectively. The snow melting from Mt. Kenya forms the water tower for the rivers that drain in the county. The county is characterized by three ecological zones: the lowland areas, the midland areas and the highlands. The county is well endowed with a thick, indigenous forest with unique types of trees while the lower parts of the forest zone provide grazing land for livestock. The county has six major rivers which are its principal source of water namely: Sagana, Nyamindi, Rupingazi, Thiba, Rwamuthambi and Ragati, all of which drain into the Tana River. Administratively, the county has four constituencies namely Mwea, Ndia, Kirinyaga Central and Gichugu. From the Kenya Population and Housing Census 2009 report, the population of the county stood at 528,054 persons with an annual growth rate of 1.5 percent.

The research was conducted in Kabare area and lower parts of Mwea in Kirinyaga South Sub-County where people were displaced by the project. An elaborate description of the location of the development project is found in the works of Serede, Mutua and Raude (2015) from which the study area is depicted as shown in Map 1. In summary, the sub-county lays approximately 100 kilometers North East of Nairobi. The project itself covers several locations and sub-locations with over 52 villages habituated by an estimated 3,270 households. The scheme is an open gravity irrigation system which grows varieties of paddy rice. The scheme was formerly within the larger Kirinyaga Administrative District, but after countrywide review of boundaries, it now sits in the bisection of that demarcates Mwea East from Mwea West Divisions of Kirinyaga South sub-county. Three headworks divert water that is used for irrigation in the Scheme from the rivers.

These are: Nyamindi headworks, Nyamindi main canal and Thiba headworks. The project area is watered by the long and short rains which occur from April to May and October to November respectively and receive an average annual rainfall of 940 mm.

Map 1: The Study Area



Source: Serede et al. (2015)

3.3 Research Design

Descriptive survey design was employed. This is because the researcher wished to examine the situation as it existed in its current state (Williams, 2007). This research design aims at examining a situation by describing important factors associated with the subject under study (Kelley, 2003). In this study, the factors of importance were: relative change in quality of life, perceived value, socioeconomic factors and unexpected outcomes.

3.4 Unit of Analysis and Unit of Observation

Unit of analysis is what is to be described or analysed in the research study. This is what the research is about, what it seeks to explain or understand. In this case, the unit of analysis is the quality of life of the project affected persons due to involuntary resettlement.

Unit of observation is the item, unit or entity from which the researcher obtain data required in the research study. In this case the units of observation are the heads of households and key informants who included community leaders, village elders, area chief, area Member of County Assembly and representatives of the project affected persons

3.5 Target Population

The target population was 709 families displaced by the development project in Kabare and Mwea villages in Gichugu Constituency.

3.6 Sample Size and Sampling Procedure

3.6.1 Sample Size

The sample size was 146 project affected households which represents 20 percent of the target population. Table 1 show the population and sample size. The sample size was arrived at based on Mugenda and Mugenda's (2003) recommendation that a sample size of between 10 percent and 30 percent of the population size is adequately representative of the total population. In this case, 20 percent of the households were considered an adequate representation of the target population.

Table 1: Population and Sample Size Distribution

Strata	Population	Sample size	Percent (%)
Land for Land	255 households	53	36.3
Cash for Land	454 households	93	63.7
Total	**709 households**	**146**	**100**

3.6.2 Sampling Procedure

Stratified random sampling procedure was used. The criteria for stratification was the choice of compensation. There were two compensation options to be chosen by the project affected persons. These are: Land for Land option and Cash for Land option. Within each stratum, the households were randomly sampled by first assigning numbers to each household on the sampling frame. This research used a sampling frame that consisted of the list of project affected households provided by the National Irrigation Resettlement Implementation Unit office in Mwea town. The names of each household were substituted with numbered pieces of paper which were later folded then they were mixed and picked at random one at a time until the researcher arrived at the target sample size. The picked numbers were then corresponded with the actual names which formed the sample.

3.7 Data Collection Methods

In each household, the head of the family was interviewed by the researcher and the research assistants. There were no difficulties administering the instruments as the researcher and research assistants were conversant with the local language and were available to interpret the questions to respondents who were not conversant with English language. The households resettled in villages that were distant from each other and hence the researcher and the research assistants used a car to move from one village to the other. The households selected were about half a kilometre or less apart from each other in each village.

3.8 Data Collection Tools

3.8.1 Quantitative Data Collection Tools

Quantitative data was collected using a structured questionnaire. The questionnaire contained both closed and open-ended questions.

The first section sought respondents' socio-demographic information such as gender, age, marital status, level of education and choice of resettlement scheme. The second section contained a set of questions related to quality of life. The third section comprised of questions seeking to establish the relationship between socioeconomic factors and perceived quality of life. The last section comprised of statements about unintended outcome of resettlement.

3.8.2 Qualitative Data Collection Tools

Qualitative data was collected through key informant interviews to supplement quantitative data. This was conducted with 10 key informants comprising of community leaders, village elders, area chief, area Member of County Assembly and representatives of the project affected persons. A key informant interview schedule was prepared for this purpose.

3.9 Data Analysis

Data processing and analysis was undertaken using the Statistical Package for the Social Sciences (SPSS). The data was coded and entered into this software where cleaning and normalization was first done. Variable specification and indicators were presented in Table 2. Quantitative data analysis entailed the use of descriptive statistical techniques. This involved the determination of the percentage frequencies and mean of the datasets. The qualitative data was analysed by reviewing and interpretation of responses and feedback from the respondents' on the effects of resettlement on the quality of life of the project affected people.

3.10 Ethical Consideration

Informed consent was obtained from respondents. The respondents were assured of confidentiality throughout the process and their identity were protected. The objectives of the study were clearly explained to the respondents and the findings used strictly for academic purposes only. They were further informed that their participation is purely voluntary and they were not under any obligation to participate if they did not wish to. Measures were taken in order to keep their participation and identity anonymous.

Table 2: Variable Specification and Variable Indicators

Variable	Type	Indicators	Measurement
Quality of Life	Dependent	Presence of positive feeling	Nominal
Social cohesion	Independent	Peace with host community	Nominal
Livelihood sources	Independent	Direct or indirect employment	Nominal
Social equity	Independent	Homeownership	Nominal
Income	Independent	Increase in household earnings	Ordinal
Social network ties	Independent	Previous affiliations intact	Nominal
Transportation	Independent	Conditions of access roads	Nominal
Education facilities	Independent	Distance to schools	Nominal
Cultural sites	Independent	Sites of cultural importance	Nominal
Water quality	Independent	Access to clean water	Nominal
Air quality	Independent	Unpolluted air	Nominal
Health care	Independent	Distance to health facilities	Nominal
House quality	Independent	Permanent housing	Nominal
Age	Control	Number of years	Ordinal
Gender	Control	Sex	Nominal
Marital status	Control	Married or unmarried	Nominal
Dependents	Control	Number of children	Interval
Education	Control	Level attained	Ordinal

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents and interprets the study findings and discusses the findings in view of the literature. The chapter begins by presenting the response rate. The rest of the chapter is presented thematically according to the specific objectives. The first section presents the descriptive statistics of respondents' general information. The second section analyzes the findings on the relative change in quality of life of persons affected by the Mwea Irrigation Development Project. The third section presents findings on the perceived value of the project to the Project Affected Persons. The fourth section analyzes the relationship between socioeconomic factors and perceived quality of life of project affected persons. The last section presents the analysis of the unexpected outcomes of resettlement experienced by project affected persons due to Mwea Irrigation Development Project.

4.2 Response Rate

Out of the 146 questionnaires, 116 were fully filled and returned. This is equivalent to 79.5% response rate as shown in Table 3. This compares favorably with the guideline offered by Rubin and Babbie (2010) who suggested that a response rate above 70 percent was very good. Therefore, the response rate was adequate.

Table 3: Response Rate

Response rate	**Frequency (n)**	**Percent (%)**
Responded	116	79.5
Did not respond	30	20.5
Total	**146**	**100.0**

4.3 Descriptive Statistics of Respondents' General Information

This section presents the findings with respect to gender, age, marital status, level of education, type of resettlement and settlement scheme.

4.3.1 Gender of Respondents

The distribution of respondents by gender is shown in Table 4. The table shows that 42.2% of the respondents were female whereas 57.8% of the respondents were male. Therefore, both gender were adequately represented in the study.

Table 4: Distribution of respondents by gender

Gender	Frequency (n)	Percent (%)
Male	67	57.8
Female	49	42.2
Total	**116**	**100.0**

4.3.2 Age of respondents

The study sought to determine the age group of respondents. Table 5 shows that 28.4% of the respondents were aged over 55 years, 18.1% were in the age bracket of 46-55 years, 17.2% were aged between 36-45 years, 27.6% of the respondents were aged 26-35 years and 8.6% of the respondents were aged between 18-25 years. Therefore, majority (63.7%) of the respondents were aged 36 years and above. This implies that majority of the respondents were mature adults, suggesting that they were more vulnerable to environmental factors that affect quality of life and their ability to support their families that are dependent on them.

Table 5: Distribution of respondents by age group

Age group	Frequency (n)	Percent (%)
18 – 25 years	10	8.6
26 – 35 years	32	27.6
36 – 45 years	20	17.2
46 – 55 years	21	18.1
Over 55 years	33	28.4
Total	**116**	**100.0**

4.3.3 Marital status of respondents

The distribution of respondents by marital status is shown in Table 6. The table shows that 68.1% of the respondents were married, 15.5% of the respondents were widowed, 12.9% of the respondents were single and 3.4% of the respondents were either divorced or separated. Therefore, majority of the respondents were married. This implies that any disruptions caused by resettlements significantly affected their quality of life due to marital and family responsibilities associated with resettlement.

Table 6: Distribution of respondents by marital status

Marital Status	Frequency (n)	Percent (%)
Married	79	68.1
Single	15	12.9
Widowed	18	15.5
Divorced/separated	4	3.4
Total	**116**	**100.0**

4.3.4 Level of education

Respondents were asked to indicate their level of education. Table 7 shows that 49.1% of the respondents attained primary education, 28.4% attained secondary education, 9.5% attained middle level college education and 4.3% of the respondents attained university education. However, 8.6% of the respondents had no education. Therefore, majority of the respondents attained primary level of education. This means that most of the project affected persons in this study had low levels of education. This implies that they were more vulnerable to the risks brought about by resettlement which potentially affected their quality of life such as their inability to negotiate for better compensation rates for their land and development on the affected land and hence dependence on more elite intermediaries for negotiation.

Table 7: Distribution of respondents by level of education

Level of education	Frequency (n)	Percent (%)
None	10	8.6
Primary education	57	49.1
Secondary education	33	28.4
Middle level college education	11	9.5
University	5	4.3
Total	**116**	**100.0**

4.3.5 Settlement Scheme

The study sought to determine the type of settlement scheme that respondent chose. Table 8 shows that those who opted for cash for land were the majority at 80.2% whereas 19.8% of the respondents chose land for land. This finding is in agreement with the records of the National Irrigation Board's Resettlement Implementation Unit (2016) which reported that compensation payments had been settled for 80% of the PAPs who opted for cash for their land. However, it contradicts the views of the Advocates for International Development (2012) who noted that land-for-land was the preferred resettlement strategy internationally. Interviews with key informants revealed several reasons to explain this finding. The main reason was the flexibility that cash for land offered and the fact that the available land for resettlement was limited. Some of the verbatim comments by the key informants included;

> *"[it offered] the option for relocating to a place of choice","[there was] scarcity of resettlement land since the PAPS opted to be resettled in their county", "[cash for land] availed them a wider range of choices on spending and application of their compensation funds", "so that they can buy less quantity of land and remain with the money to do other activities such as pay school fees, start business or expand business" and; "they never wanted to move from…their ancestral land".*

There was also a general consensus by the key informants that the PAPs were fairly compensated. This contradicts the findings of a similar study by Sakwa (2015) which found that majority of PAPs complained that compensation was not commensurate to assets acquired. The disparity in findings may be explained by differences in the way project implementers engaged with the community. It should be noted that the study by Sakwa also found that project implementers made no effort to bring together all relevant stakeholders, unlike in the current study where involvement was at least effected through elected representatives.

Table 8: Type of settlement scheme

Type of settlement scheme	Frequency (n)	Percent (%)
Land for land	23	19.8
Cash for land	93	80.2
Total	**116**	**100.0**

4.3.6 Classification of Displacement

The study sought to establish whether respondents were totally or partially displaced from their land. Table 9 shows that 50.9% of the respondents were partially displaced while 49.1% of the respondents were totally displaced. This suggests that both categories of respondents were adequately represented in the study.

Table 9: Classification of displacement

Classification of displacement	Frequency (n)	Percent (%)
Partial displacement	59	50.9
Total displacement	57	49.1
Total	**116**	**100.0**

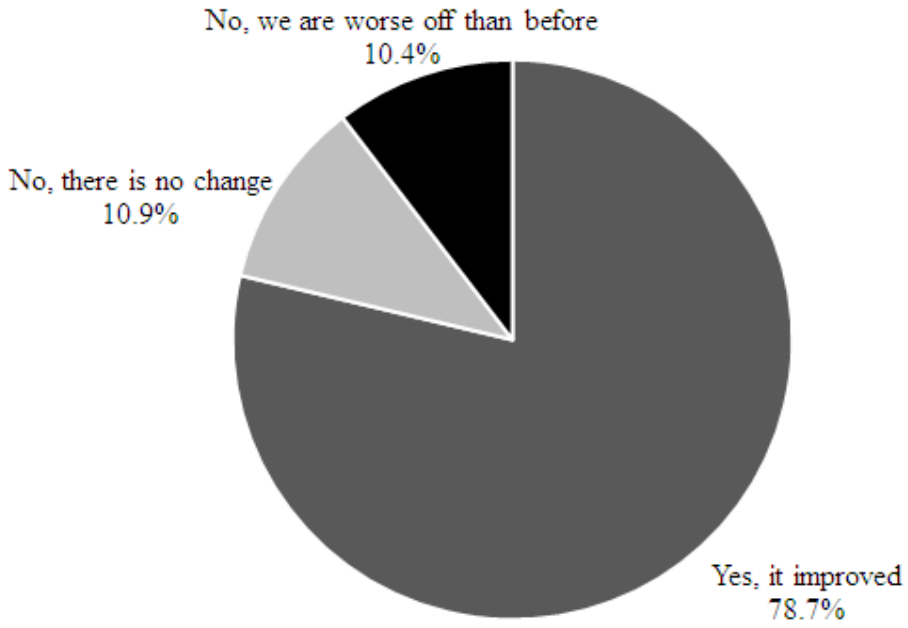
4.4 Change in Quality of Life of Project Affected Persons

This section presents findings on the relative change in quality of life of persons affected by the Mwea Irrigation Development Project. The measures analyzed include peaceful coexistence with neighbors, employment, home ownership, income levels, and environmental quality.

4.4.1 Relative change in quality of life

The opinion of the respondents was sought on whether they would say their quality of life and that of their family improved after being resettled by the project. Figure 2 shows that 78.7% of the respondents said the quality of life improved, 10.9% of the respondents observed no change in their quality of life whereas 10.4% of the respondents said they became worse off than before. Therefore, majority of the respondents were of the view that their quality of life had improved after being resettled by the project. This contradicts the findings of a previous study by Iorliam (2014) in Nigeria which found that project affected persons were socio-economically worse off than they were in their original villages. This suggests that the dynamics of each development project may be unique and context specific. The results suggest that involuntary resettlement best practices which emphasizes that PAPs should be placed in at least the same, if not a better, position as they were prior to their eviction and displacement, theorized by Advocates for International Development (2012), were observed.

Figure 2: Relative change in quality of life (N=116)



4.4.2 Social cohesion

Respondents were asked to indicate whether they coexisted peacefully with their new neighbors where they resettled. Table 10 shows that 85.3% of the respondents coexisted peacefully with their neighbors while 14.7% of the respondents did not. Therefore, the resettlement process did not disrupt social cohesion and peaceful coexistence. This contradicts the findings of a study in in Cambodia by UNHCR (2012) which found that community cohesion and participation at resettlement sites was generally weak. This may be explained by the fact that PAPs in this study opted to resettle in the same county and therefore did not relocate far from their ancestral land. As such, they were not regarded as aliens in their new resettlement sites.

Table 10: Coexistence with neighbors after resettlement

Peaceful coexistence	**Frequency (n)**	**Percent (%)**
Yes	99	85.3
No	17	14.7
Total	**116**	**100.0**

4.4.3 Income through employment and business opportunities

The study sought to establish whether anyone in respondents' household earned a living from the dam project/irrigation scheme either directly as an employee or indirectly through business opportunities created by the scheme/project.

Table 11 shows that 86.2% of the respondents said "no" whereas 13.8% of the respondents said "yes". Therefore, majority of the respondents were of the view that the resettlement process did not bring about income through employment and business opportunities. This contradicts the findings of Ndirangu (2014) with respect to project affected persons around Thiba Dam which found that the dam construction project accounted for 51.3% of household livelihood. This echoes the importance of income restoration programs as part and parcel of the involuntary resettlement package. However, this outcome may be explained by the fact that the civil works for the dam construction project had not yet commenced and therefore, the potential for income through employment and business opportunities still existed for project affected persons in the area under study.

Table 11: Income through employment and business opportunities

Earning a living from dam project	Frequency (n)	Percent (%)
Yes	16	13.8
No	100	86.2
Total	**116**	**100.0**

4.4.4 State of housing after resettlement

Respondents were asked whether the new home where they resettled in was of better quality compared to the one they had originally. Table 12 shows that 71.7% of the respondents said "yes" whereas 28.3% of the respondents said "no". Therefore, the resettlement project led to better housing for project affected persons. This contradicts the observation by Cernea (1999) that most resettlement programs are characterized by poorer housing quality. This may be explained by advances in best practices that has seen proper cost estimation that ensures that project affected persons are fully compensated as conceptualized in the Integrated Dam Assessment Model.

Table 12: Better quality of housing after resettlement

Better quality of housing	Frequency (n)	Percent (%)
Yes	83	71.7
No	33	28.3
Total	**116**	**100.0**

4.4.5 Home ownership

The study sought to establish whether respondents owned the house or home where they resettled in. Table 13 shows that 94.7% of the respondents said "yes" while 5.3% of the respondents said "no". Therefore, majority of the respondents owned the house or home they resettled in. This suggest that the resettlement project positively transformed the lives of the project affected persons by facilitating property ownership.

Table 13: Home ownership after resettlement

Own home where resettled	Frequency (n)	Percent (%)
Yes	110	94.7
No	6	5.3
Total	**116**	**100.0**

4.4.6 Change in income levels

Respondents were asked whether their income levels increased since they were resettled by the project. According to Table 14, 71.3% of the respondents reported that their income increased, 19.1% of the respondents observed no change in income whereas 9.6% of the respondents noted that their income reduced after resettlement. Therefore, the resettlement project brought about increase in income for majority of the respondents. This is consistent with the perspective fronted by Varhade et al. (2013) that such projects are symbols of national progress because they bring about economic prosperity.

The results however contradicts the study by Wilmsen, Webber and Duan (2011) with respect to the effect of resettlement on farming households in two villages in the catchment area of a dam in China where it was found that project affected persons became more vulnerable to external shocks than they were before resettlement as a result of loss of farm income not made up by increased off-farm income through paid work or self-employment.

The difference in outcomes may be explained by the fact that the irrigation scheme in this study was not the first project unlike the resettlement case study in China. Given that the first resettlement occurred in the 1980s with the initiation of irrigation schemes in the area, lessons might have been learnt that led to the improvement of resettlement practices, explaining the success in the current resettlement project. However, it should be noted that income primarily increased from rise in the demand for land rather and construction of commercial/rental buildings than from traditional sources of livelihood.

Table 14: Change in income after resettlement

Income Change	**Frequency (n)**	**Percent (%)**
Yes, income has increased	83	71.3
No, there is no change in income	22	19.1
No, income has reduced	11	9.6
Total	**116**	**100.0**

4.4.7 Socioeconomic changes

The study sought to establish whether and the extent to which the resettlement project led to any change in socioeconomic factors with respect to project affected persons. Table 15 ranks the mean scores on a 5 point scale from 1 to 5. The table suggests that the resettlement project positively impacted housing quality (M=4.03), income (M=3.78) and environmental quality (M=3.65) without significantly interfering with peaceful coexistence in the community (M=4.51), social relations (M=3.68) or disrupting culture and tradition (M=2.34).

However, there was little dependence on the irrigation project as a source of income (M=1.83). Respondents were also indifferent as to whether the project brought good health facilities (M=2.88) or good roads (M=2.75). These results reflects application of best practices as theorized in the Integrated Dam Assessment Model which, according to Kibler *et al*. (2012), helps query and observe dam costs and benefits across socioeconomic, geopolitical and biophysical systems.

Table 15: Changes in socioeconomic factors after resettlement

Quality of life indicators	1	2	3	4	5	Total		Mean
						Percent (%)	N	
	Percentages (%)							
We coexist peacefully with our neighbors in the community	2.6	4.4	4.4	16.7	71.9	100.0	116	4.51
The house we have resettled in is better than the former one	8.1	9.0	11.7	14.4	56.8	100.0	116	4.03
Our household income has increased since we resettled here	12.6	9.9	9.9	21.6	45.9	100.0	116	3.78
The irrigation scheme has not interfered with our social relations and friends in the community	14.0	4.4	11.4	40.4	29.8	100.0	116	3.68
We enjoy cleaner water and air than before	11.7	14.4	9.9	25.2	38.7	100.0	116	3.65
There is good access to health facilities built by the project sponsors	36.8	15.8	6.1	5.3	36.0	100.0	116	2.88
The project has brought about good roads which make it easier to move from one location to another	28.9	21.9	14.0	14.9	20.2	100.0	116	2.75
Since the onset of the project, our culture and tradition has been disrupted	28.9	38.6	9.9	25.2	38.2	100.0	116	2.34
My household depends on the irrigation scheme as a source of income	56.1	24.6	6.1	6.1	7.0	100.0	116	1.83

Key:
5 = SA (Strongly Agree)
4 = A (Agree)
3 = N (Neutral)
2 = D (Disagree)
1 = SD (Strongly Disagree)

4.5 Relationship between socioeconomic factors and perceived quality of life of PAPs

In this section, the effect of resettlement project on socioeconomic factors such as social life, roads, schools, distance, cultural places, and water, air and health facilities is analyzed.

4.5.1 Social life of the community

The study sought to establish whether the resettlement affected respondent's social life in the community such as family, friends they used to interact with, church or chamas/merry go round they were a member of. Table 16 shows that 58.2% of the respondents said "no" whereas 41.8% of the respondents said "yes". Some of the comments from the respondents who said that their social lives had not been affected by the project included;

> *"we are still meeting and interacting as before and going on with our projects together as before", "I am in the same place because only part of my land was affected and the compensation was not much to enable me move away from family and friends", "I joined another chama in the new area where I resettled" and "the immediate neighbours are the same who used to be my neighbours previously and who we relocated together to the new place".*

Therefore, the social life of majority of the respondents was not affected by the resettlement project. This suggests that the risk of displacement and resettlement that often result in breakdown of social and cultural networks as speculated by Godamunne (2013) were mitigated by project implementers.

Table 16: Effect on social life

Resettlement affected social life	**Frequency (n)**	**Percent (%)**
Yes	49	41.8
No	67	58.2
Total	**116**	**100.0**

4.5.2 Condition of access roads

Respondents were asked to compare the condition of access roads to where they settled with the access road they used in their previous dwelling places. Table 17 shows that 54.9% of the respondents saw no difference, 41.6% of the respondents saw improvement while 3.5% of the respondents said the condition of roads were worse off. This means that the conditions of the roads were not improved by the resettlement process. This may be explained by the fact that civil works had not yet commenced by the time of undertaking this study.

Table 17: Comparison of access road between place settled at and previous dwelling

Condition of access road	Frequency (n)	Percent (%)
Better	48	41.6
No difference	64	54.9
Worse	4	3.5
Total	**116**	**100.0**

4.5.3 Schools in the community

The question sought to establish whether the schools in the new dwelling place were improved/better. Table 18 shows that 68.4% of the respondents said the conditions did not change while 31.6% said condition of schools improved. Therefore, the resettlement process did not bring about better schools in the community. This contradicts the findings of the study by Terminski (2013) in Zambia which found that project affected persons and residents were given access to social services including schools. This may be explained by the fact that since majority of the respondents opted for cash for land, the place where they resettled in may not have necessarily been within the project's scope of operation, thus schools in the new place of resettlement may not have been beneficiaries of compensation.

Table 18: Changes in condition of schools in the community

Improvement in condition of schools	Frequency (n)	Percent (%)
Yes	36	31.6
No	80	68.4
Total	**116**	**100.0**

4.5.4 Distance to schools

The study sought to establish whether respondents' children had to travel longer distances to access schools than before. Table 19 shows that 73% of the respondents said "no" whereas 27% of the respondents said "yes". Therefore, the resettlement project did not interfere with the distance to school for children of majority of the respondents. This may be due to the fact that majority of the respondents opted for cash for land and chose to resettle within the same locale.

Table 19: Effect of resettlement on distance to Schools

Children have to travel longer distances to school	Frequency (n)	Percent (%)
Yes	31	27.0
No	85	73.0
Total	**116**	**100.0**

4.5.5 Effect of resettlement on cultural and religious places

Respondents were asked whether areas of cultural and religious importance were preserved. Table 20 shows that 64.9% of the respondents observed that cultural areas of importance were preserved while 35.1% of the respondents said they were not preserved. Therefore, the cultural areas of importance was not interfered with for majority of the respondents. This contradicts the findings of Sakwa (2012) whose study found that all the respondents lamented loss of cultural and social ties. This may be explained by the fact that the project only partially displaced about half of the project affected persons and majority of those who were fully displaced did not relocate far from their original dwelling place.

Table 20: Preservation of areas of cultural importance

Areas of cultural importance preserved	Frequency (n)	Percent (%)
Yes	75	64.9
No	41	35.1
Total	**116**	**100.0**

4.5.6 Effect of resettlement on water and air quality

The study sought to determine the effect of resettlement on environmental conditions such as water and air quality. According to Table 21, majority (92.6%) of the respondents said the water and air was clean whereas 7.4% of the respondents said there was air and water pollution. This contradicts the observation by Terminski (2013) that environmental degradation through water and air pollution was a usual consequence of development projects. Interviews with key informants revealed that there were no adverse effects yet because the civic works on the project was not yet started.

Thus, this finding is mainly explained by the fact the civil works for the construction of the project had not yet commenced. This is reflected in the expectations by most of the key informants in this study who expected changes in the climate, soil, and water and air quality.

Table 21: Effect of irrigation project on water and air quality

Quality of air and water	Frequency (n)	Percent (%)
Clean	107	92.6
Polluted	9	7.4
Total	**116**	**100.0**

4.6 Perceived value of the Development Project to the Project Affected Persons

This section analyzes the importance respondents attached to the irrigation development project and the extent to which they were involved in resettlement decisions.

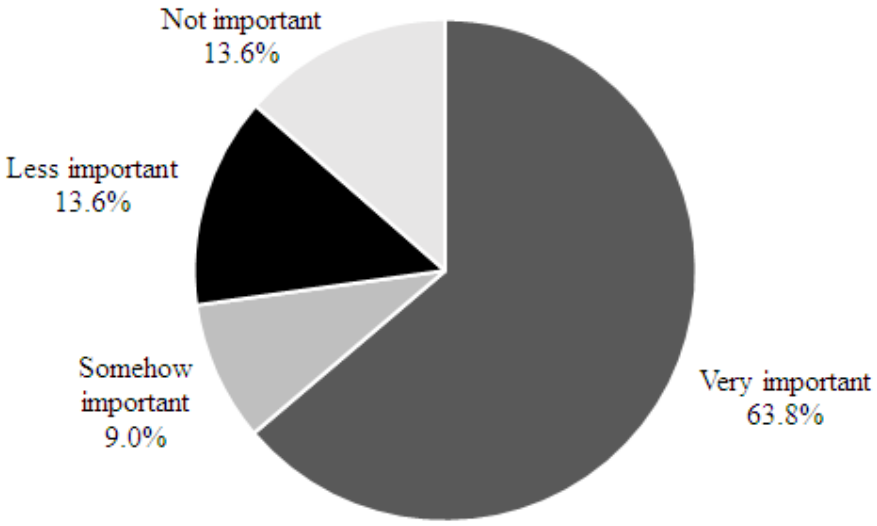
4.6.1 Importance of Project to Project Affected Persons

The distribution of respondents in terms of importance they attached to the proposed dam irrigation development to their life is shown in Figure 3. The figure shows that the development project was very important to 63.8% of the respondents and somehow important to 9.0% of the respondents. However, 13.6% of the respondents attached little importance of the project to their lives whereas 13.6% of the respondents said the project was not important to their life. Some of the comments from the respondents who said that the proposed dam and irrigation project is very important to their lives included;

> *"it would change the lifestyle of the community and have long term investment", "I became a wholesaler and upgraded my farming methods", "it will improve food security and development in the region and in the entire country"; "the project will increase rice production in Mwea" and "I was able to buy a piece of land and built a permanent residential and rental houses".*

Therefore, the irrigation development project was very important to the project affected persons. This implies that the IDAM model was potentially adopted in the resettlement process since the project had high salience from the perspective of project affected persons as important stakeholders.

Figure 3: Importance of the irrigation project to project affected persons (N=116)



4.6.2 Involvement in resettlement decisions

The study sought to establish the extent to which project affected persons had a say in the decisions concerning where, how and when they were to be resettled. Figure 4 shows that 36.2% of the respondents had a lot of say in resettlement decisions whereas 36.2% of the respondents had no say at all.

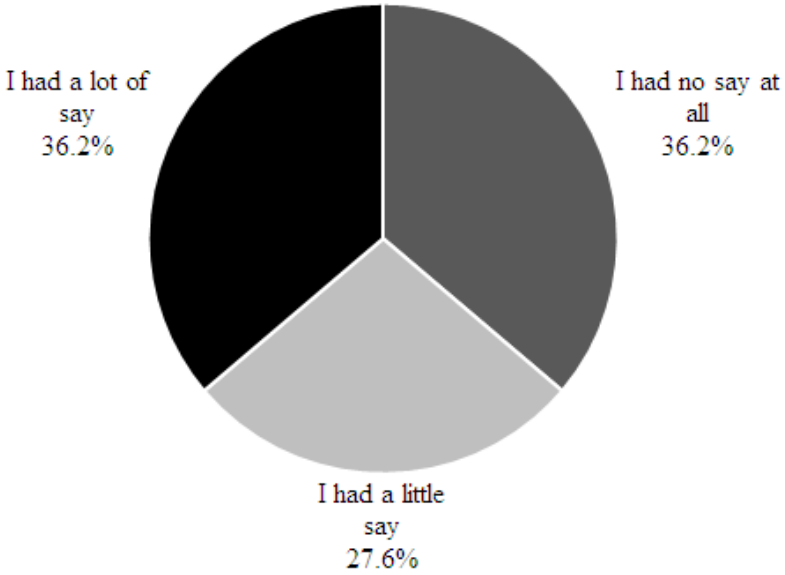
Some 27.6% of the respondents had a little say in resettlement decisions. The figure suggests that majority (63.8%) of the respondents had little or no say at all in the decisions concerning where, how and when they were to be resettled. Although slightly lower, it mirrors the findings of Ndirangu (2014) which found that 73% of households were not involved in the negotiation process with respect to resettlement process triggered by Thiba dam construction. This agrees with the observation made by Essendi and Madise (2014) that very few such development projects in sub-Saharan Africa takes into consideration the importance of involvement of local communities in the decisions associated with development projects that have a direct impact on them. However, key informant interviews with area chiefs and community leaders revealed contrary opinions. All key informants except one were of the opinion that project affected persons were involved. This is depicted in comments such as;

> *"the community was part and parcel of the consultation through focus group discussions, election of PAPs committees and liaising via the communications office set up at the dam site",*

"…many barazas were convened and PAPs committee members were elected to represent the affected people who channeled their grievances to the authorities", "[the exercise] was inclusive of all stakeholders i.e. directly affected persons, local administration officers, religious leaders and other indirectly affected persons", and; "there was total contribution of affected persons' views towards the development of a resettlement program."

It can thus be speculated that although the PAPs were involved through representation, they may have anticipated closer consultation and participation in decision making than might have been the case.

Figure 4: Involvement of project affected persons in resettlement decisions (N=116)



4.7 Unexpected outcomes of resettlement

This section presents qualitative analysis of the unintended positive and negative outcomes of resettlement on five dimensions of quality of life: health, income, security, housing and education. **Table 22** present samples of verbatim comments. The table suggests that the resettlement project created a mixed bag of unexpected outcomes for project affected persons. On the positive side, the project brought about access to better healthcare, liquidity, better housing and better schools. This is corroborated by the accounts of the key informants interviewed. Specific examples given by the key informants include that;

"the new settlement sites are provided with complete infrastructure near them like health facilities, schools, cattle dip and police posts", "compensation was handsome, land for land compensation was at 1.5 acres for every 1 acre acquired",

> *Members of the affected and compensated community built new permanent houses and started businesses which they could not do before" and "emergence of a town centre in the neighborhood."*

These results agree with the observations of Singh and Yadava (2003) who asserted that facilities that enhance quality of life such as schools, hospitals, road and water supply systems opened by the project gradually become an integral part of the lifestyle of project affected persons in the course of the time. It also agrees with a previous study by Phonepraseuth (2012) which found that resettlers gained a number of positive livelihood experiences including social and psychological benefits such as better health care and education.

However, on the negative side, a number of social evils also manifested including drunkenness and diseases, inflation, rise of conmen and loneliness. In addition, the children covered longer distances to education facilities. This agrees with a previous research in Kenya by Sakwa (2012) which found that all the PAPs lost social networks and amenities including markets and learning centers. Interviews with key informants yielded the following comments:

> *"influx of women [prostitutes] searching for quick cash", "loss of lives because of indulgence in drugs and alcoholism", "family wrangles", "extramarital sex, shylocking, breakage of families and misuse of funds" and "families and clan members disintegrated".*

Misuse of compensation funds and poor management of resettlement and compensation related grievances were frequently mentioned by most of the key informants interviewed.

Table 22: Unexpected outcomes of resettlement

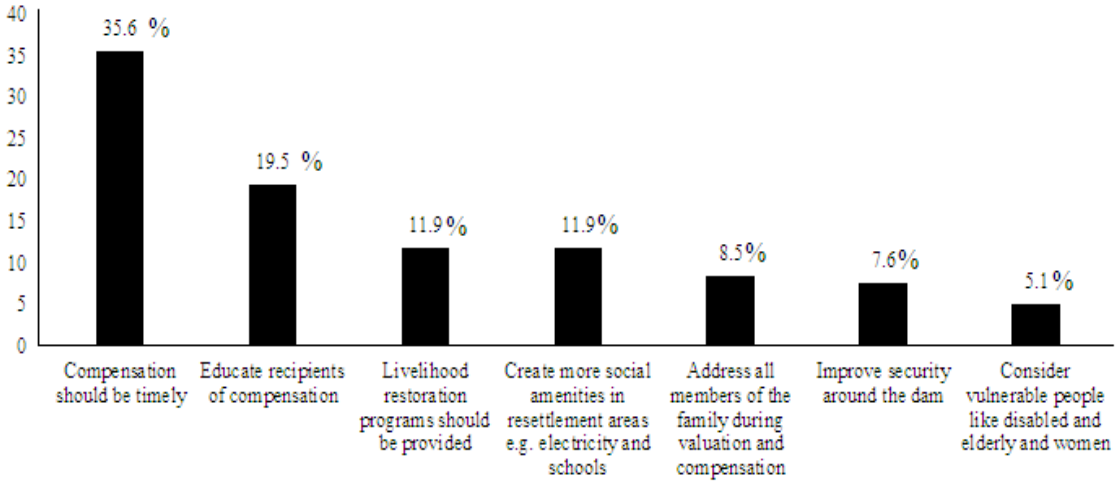
Quality of life measure	*Sample of verbatim comments on positive outcomes*	*Sample of verbatim comments on negative outcomes*
Health	"well equipped and renovated [health facilities]" "People with chronic diseases or with financial problems are able to go to better hospitals" "No case of a patient being turned due to lack of fees"	"Many got into drinking leading to death [out of] shock when the money got finished without proper use." "Daughter in-law became sick and we had to use the money for her medical upkeep."
Income	"I capitalized my business from the compensated money" "Got rental income" "Got more land for farming" "The amount of compensation got me a residential house, rental plot on top of a longer piece of land" "I was able to pay school fees"	"It took too long to get the disbursement" "Less income from farming." "No employment opportunity has been created by the project" "Price of land tripled" "Some people died before receiving the disbursement" "There are new faces of conmen who wanted to con people of their money." "Many people were conned by brokers."
Security	"Close proximity to police base"	"The area is becoming a forest." "The place is lonely since few people have settled."
Housing	"I had a wooden house but now I have a stone house" "Better housing than I ever dreamed about" "Modern house with electricity"	"Compensation was not good for me to construct a good house". "Was unable to complete my house" "we lost our houses and the compensation money was not enough to build another house"
Education	"Transition from day school to boarding school" "Well equipped school with learning facilities"	"My children are walking long distance to school." "We thought the school is near our new residence"
Socio cultural changes	"[I have made] new friends"	"I was left alone after my neighbor moved." "Left behind relatives who will be living at the shores of the dam"

4.8 Recommendations from Project Affected Persons

This section summarizes the recommendations made by project affected persons towards improvement in similar resettlement projects to improve the lives of communities affected by the project. From the verbatim comments, five salient points were raised as shown in figure 5. The figure shows that the need for timely payment was the most pressing issue for improvement, accounting for 35.6% of the responses, followed by the need to educate project affected persons before compensation (19.5%). Most of the key informants were in concurrence, recommending that;

> *"the process of payment of compensation cash and resettlement activities should not be delayed in the future", "PAPs should have been educated on how to manage money before being given compensation cash, "disbursement of compensation cash should have been phased to avoid misuse of cash before actual resettlement" and "…to safeguard against moving back to the site as squatters."*

Figure 5: Recommendations made by project affected persons (N=116)



The figure also shows that 11.9% of the respondents were of the view that livelihood restoration programs should be considered concurrently with resettlement, another 11.9% of the respondents wanted more social amenities like schools and electricity at their new resettlement area. Further, 8.5% of the respondents recommended improvement of security around the dam site and resettlement area, another 7.6% of the respondents called for the need to address all family members laying claim to family land while 5.1% of the respondents also recommended the putting up of measures to protect the vulnerable people like disabled, elderly and women. Timely compensation is therefore importance in enhancing the resettlement process hence sparing the affected people the anxiety of a long wait for their compensation cash.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the study, draws conclusions and makes recommendations. The summary recaps the main problem and objectives of the study as well as the research methods applied. It also presents the major findings of the study. Conclusions are then drawn for each specific objective. Lastly, recommendations are made for policy and further research directions suggested.

5.2 Summary

Kenya's Vision 2030 (Republic of Kenya, 2007) which is the country's development blueprint launched in the year 2008 recognizes Mwea Irrigation Development Project as one of the major flagship projects under water and sanitation. Such projects necessitates involuntary resettlement of project affected persons. In the last few decades, there has been increasing recognition that the number of involuntarily displaced people due to development projects has become a global problem calling for investigation. In the overwhelming majority of cases, most of the people displaced or resettled by development projects are still left worse off than before and suffer socio-economic impoverishment.

In order to present an accurate assessment of the effects of any development project, it is necessary to undertake the assessment at least upon completion or near completion of the project. It is also not only important that the impact of a development project is seen to be positive, project affected persons also ought to perceive this to be the case.

Extending research on the impact of irrigation development projects on Kenyan communities, this study considered the Integrative Dam Assessment Model, Stakeholder View and Social Capital Theory in empirically analyzing the socioeconomic outcomes of involuntary resettlement on communities within the catchment area and downstream of the Mwea irrigation project. The study sought to answer the following questions: What is the relative change in quality of life of persons affected by Mwea Irrigation Development Project? How much value do project affected persons attach to Mwea Irrigation Development Project? What is the relationship between socioeconomic factors and perceived quality of life of project affected persons? And, are there any unexpected outcomes of resettlement experienced by project affected persons due to Mwea Irrigation Development Project?

The study was conducted within the catchment area and downstream of Mwea Irrigation Development Project in Kirinyaga County. Data was collected at Kabare area and lower parts of Mwea in Kirinyaga South Sub-County where people were displaced by the project. Descriptive survey design was employed. The target population was 709 families displaced by the development project in Kabare and Mwea villages in Gichugu and Mwea Constituencies respectively. This comprised 255 households who opted for land-for-land and 454 households who opted for cash-for-land compensation. The sample size was 146 project affected households. Stratified random sampling based on the choice of compensation was applied. Data was collected through administration of questionnaires to the project affected persons and Key Informant Interviews with the area chiefs, project officials and representatives of the project affected persons. The data was analysed using descriptive statistical techniques such as mean and percentages. Data was analysed using SPSS version 20. The findings showed that the resettlement process led to the improvement in quality of life of 79% of the respondents. The resettlement project positively impacted housing quality, income and environmental quality without significantly interfering with peaceful coexistence in the community, social relations or disrupting culture and tradition.

5.3 Conclusions

The outcome of involuntary resettlement in development project is contextually unique. With respect to the Mwea Irrigation Development Project, the relative change in quality of life was positive. The lives of project affected persons generally improved in many respects socioeconomically. Although the development project did not yet contribute to the livelihood of the project affected persons as the civil works had not yet commenced, the community realized a rise in income occasioned by demand for land and income from rental houses. The lives of project affected persons were transformed in the sense that compensation enabled them to own better quality houses and property. The resettlement project also brought about better health and sanitation facilities. The development project did not bring about significant socio-cultural disruptions as many of the project affected persons resettled within their locality. Perceived quality of life of project affected persons rose with socioeconomic improvements brought about by the resettlement process.

This includes better road networks, better learning facilities such as schools for children, improved access to clean water and healthcare facilities, and peaceful coexistence with the host community. Generally, the resettlement process brought about socioeconomic prosperity of project affected persons as well as the irrigation project's catchment area.

Project affected persons held the irrigation development project in high regard. The project was a salient aspect of importance to their lives. Economic prosperity was anticipated as the project was expected to create jobs for the community and bring income through business opportunities. The project's acceptance was potentially largely influenced by the manner in which the resettlement process was handled. Project affected persons experienced both positive and negative outcomes of the resettlement process. Among the unanticipated positive experiences associated with the involuntary resettlement were: increased liquidity which enabled project affected persons to meet other life obligations such as payment of school fees, free access to quality healthcare facilities and services, development of social infrastructure and communal assets such as cattle dips, and the emergence of a town centre within the locale. However, the project affected persons have also had to make do with a rise in social evils including increase in cases of extramarital sex, indulgence in drugs and alcoholism, breakage of families through wrangles and loss of lives.

5.5 Recommendations

The following recommendations are made for policy and further research:

5.5.1 Recommendations for Policy

Future involuntary resettlement programs should adopt a bimodal approach to compensation whereby both cash and land are awarded as compensation. Cash compensation should especially be provided in phases. For example, the first half of the cash compensation could be awarded to enable project affected persons acquire land and commence resettlement. The second batch should be awarded only on evidence of having commenced development. The last batch should be awarded after full resettlement. This approach will help reduce cases of people wasting away the compensation money and becoming squatters on the site of the project.

In case of partial compensation, the compensation policy should ensure that where the remaining parcel of land is uneconomical to the project affected person, the land should be fully acquired by the project and the owners fully compensated. Grievance committees should also be set to hear appeals made by family members and interested parties involved in resettlement disputes.

5.5.2 Recommendations for Further Research

This research was limited in scope to persons who were partially and fully displaced by the irrigation project. Thus, the views of members of the immediate community who did not loss land and developments on affected land and hence not compensated yet were potentially affected by the development project were not represented. Therefore, a similar study could be carried out among this respondent cohort. These include neighbours of individuals who were displaced by the project as well as downstream community members who may experience change in ecosystem as a result of the development project and upstream members who will be depended on largely in maintaining the dam catchment areas for its sustainability.

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APPENDIX I: RESEARCH QUESTIONNAIRE

THE EFFECT OF INVOLUNTARY RESETTLEMENT ON THE QUALITY OF LIFE OF PROJECT AFFECTED PERSONS: A CASE STUDY OF MWEA IRRIGATION PROJECT

Dear Sir/ Madam,

As a **partial fulfillment of the requirements for the award of the degree of Master of Arts in Sociology (Rural Sociology and Community Development), University of Nairobi**, I am carrying out a research on the above subject.

I am now on the data collection Phase whereby data collected will be analyzed for academic research only. The data obtained from you will be handled in confidence and not exposed to or shared with third parties

Thank you in advance for your willingness to participate.

Irene Muchoki – Research Student

Please place a tick on the appropriate box or fill in the blanks as completely and accurately as possible.

==========

SECTIONA: GENERAL INFORMATION

1. Gender:

   Male □ Female □

2. Age:

   18 – 25 years □ 26 – 35 years □ 36 – 45 years □

   46 – 55 years □ Over 55 years □

3. Marital Status:

   Married□ Single □ Widowed □ Divorced/Separated □

4. Highest level of education attained:

   None □ Middle level college education □

   Primary education □ University education □

   Secondary education □ Other (please specify) _____

5. What resettlement scheme did you opt for?

   Land for Land □ Cash for Land□

SECTION B: QUALITY OF LIFE

6. Would you say that the quality of your life and that of your family has improved after being resettled by the project?

   Yes, it has improved □

   No, there is no change □

   No, we are worse off than before □

   Please explain? _____

   _____

7. Is there peaceful coexistence with your new neighbors where you resettled?

   Yes □

   No □

   Please explain? _____

   _____

   _____

8. Is anyone in your household earning a living from proposed dam project /irrigation scheme either directly as an employee or indirectly through business opportunities created by scheme/project?

   Yes □

   No □

   Please explain? _____

   _____

   _____

9. Is your new house/home where you have resettled of better quality compared to the one you had originally?

   Yes □

   No □

   Please explain? _____

   _____

   _____

10. Do you own the house/home where you have resettled in?

Yes □

No □

11. Has your income level increased since you were resettled by the project?

Yes, income has increased □

No, there is no change in income □

No, income has reduced □

Please explain? _____

_____

12. Please place a tick against the answer which closely represents your opinion on the following statements

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
1. We coexist peacefully with our neighbors in the resettled community					
2. My household depends on the irrigation scheme/ dam project as a source of income					
3. The house we have resettled in is better than the former one					
4. Our household income has increased since we resettled here					
5. The dam project and related resettlement have not interfered with our social/friends relations in the community					
6. The project has brought about good roads which make it easier to move from one location to another					
7. Since the onset of the project, our culture and tradition has been disrupted					
8. We enjoy cleaner water and air than before					
9. There is good access to health facilities built by the project sponsors					

SECTION C: RELATIONSHIP BETWEEN SOCIOECONOMIC FACTORS AND PERCEIVED QUALITY OF LIFE

13. Has the resettlement affected your social life in the community e.g. family, friends you used to interact with, church or chamas/merry go round you were a member of?

    Yes □ No □

    Please explain? _____

    _____

14. What is the condition of access roads to where you resettled at compared to where you lived originally?

    Better □ No difference □ Worse □

    Other (Please specify) _____

    Please explain? _____

    _____

15. Have the schools in the community where you have resettled been improved?

    Yes □ No □

    Please explain? _____

    _____

16. Do your children have to travel longer distances to access the school than before?

    Yes □ No □

    Please explain? _____

    _____

17. Are the cultural places of importance to you been preserved?

    Yes □ No □

    Please explain? _____

    _____

18. How has the proposed dam project /irrigation scheme affected the quality of water in the community?

    We have access to clean water □

    Water is polluted □

    Please explain? _____

    _____

19. How has the proposed dam project /irrigation scheme affected the air quality that you breathe?

    The air is clean □

    The air is polluted □

    Please explain? _____

    _____

    _____

20. What would you say about access to health facilities in the newly settled community?

    _____

    _____

21. Please place a tick against the answer which closely represents your opinion on the following statements

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	1	2	3	4	5
1. We enjoy better interaction and closeness with friends and the community					
2. Our life has improved due to better road networks in the community					
3. Our children enjoy better learning facilities brought about by the irrigation scheme/ dam project					
4. The project has not interfered with our culture and way of life					
5. We enjoy good health due to access to clean water					
6. Conflict between neighbors have increased due to competition for resources					
7. The irrigation project/ dam project has improved our food security					
8. Generally, our quality of life has improved greatly					

SECTION D: VALUE ATTACHED TO MWEA IRRIGATION DEVELOPMENT PROJECT

22. Generally, how important is the proposed dam project / irrigation development project to your life?

    Very important □

    Somehow important □

    Less important □

    Not important □

    Please explain? _____

    _____

    _____

23. To what extent did you have a say in the decisions concerning where, how and when you were to be resettled?

    I had a lot of say □

    I had little say □

    I had no say at all □

    Please explain? _____

    _____

SECTION E: UNINTENDED EFFECTS

24. What stands out to you as the positive outcomes of the resettlement that you had not expected with respect to the following aspects of quality of life?

    i) Health_____

    _____

    ii) Income _____

    _____

    iii) Security _____

    _____

    iv) Housing _____

    _____

    v) Education _____

    _____

25. Are there any negative things caused by the proposed dam project /irrigation scheme which you can identify? Please list:

    i. _____

    _____

    ii. _____

    _____

26. What would you recommend to be improved in similar resettlement projects to improve the lives of communities affected by development projects?

    i. _____

    _____

    ii. _____

    _____

THANK YOU FOR YOUR TIME AND COOPERATION

APPENDIX II: KEY INFORMANT INTERVIEW SCHEDULE

1. How has your quality of life and that of your family improved after being resettled by the project? Please give some specific examples?
2. In what ways has the resettlement affected the livelihood of the community?
3. What would you say about the project's effect on the environment such as air, water, soil?
4. How about issues to do with health and sanitation?
5. In your opinion, what stands out to you as the positive outcomes of the project that you did not expect?
6. What about any negative outcomes?
7. In your opinion, were project affected persons fairly compensated? Please explain?
8. What would you say about community participation during the entire process?
9. In what practical ways have you as a member of the community benefited from the project?
10. Generally, would you say that the community is better off with the project? Please explain?
11. What in your view, could be done differently in similar resettlement projects in the future?