ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
INSTITUTE FOR PEACE AND SECURITY STUDIES

THE ROLE OF GIBE III DAM IN ACHIEVING EFFECTIVE COOPERATION BETWEEN ETHIOPIA AND KENYA

BY
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Acronyms and Abbreviations

AfDB	African Developmental Bank
CO_2	Carbon dioxide
CSOs	Civil Society Organizations
EAPP	East African Power Pool
EIB	European Investment Bank
EEPCo	Ethiopian Electric Power Corporation
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
FDRE	Federal Democratic Republic of Ethiopia
GWh	Gigawatt Hour
Ha	Hectoampere
IHA	International Hydropower Association
NGOs	Non-Governmental Organizations
M^3	Meter Cube
MW	Mega Watt
PAPs	Project Affected Persons
PM	Prime Minister
UNDP	United Nations Development Program
UNEP	United Nations Environment Program

UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United Nations Agency for International Development
USGS	United States Geological Survey

Abstract

This study investigates the role of the Gibe III in bringing about cooperation between Ethiopia and Kenya through effective utilization of natural resources. Cooperation would be realized if there is public participation of the local population that inhabits the affected areas, enforcement of basin wide agreement, environmental scrutiny and sharing of information. Trans-boundary waters have a way of bringing cooperation between the riparian states as they do conflict. Therefore, this paper has examined the role of the Gibe III Dam in acting as a cooperation tool and how its water can be utilized effectively if proper agreements were in place. Although there are a couple of agreements on the Omo River between Ethiopia and Kenya, there is no trans-boundary water agreement so far. Therefore the study discusses in detail how cooperation can be achieved without a cooperation framework. There have been other Dams and developmental agreements on the Omo River but the Gibe III has become a talking issue for some time because of the perceived impact it is expected to cause on Lake Turkana. If the water level of Lake Turkana falls, it will lead to conflict between the two countries, hence the need for cooperation and effectively managing the shared water. Thus, the study has investigated whether there are cooperative tools and/or water management agreements between Ethiopia and Kenya. The reaction to the construction of the Dam by the affected people and how they are affected has also been examined. Analysis of conflict prevention and management methods used by appropriate bodies in case conflict arises has also been conducted. The challenges that were faced during the construction of the Dam have also been studied in order to help with the step forward.

Key Words: *Omo River, Lake Turkana, Gibe III Dam, Cooperation, Effective Utilization of Water Resources*

CHAPTER ONE

1. Introduction

1.1. Background

Water is essential to all living things on this earth. We use water for various things in our day-to-day activities; for drinking, cooking, cleaning, farming, and so on. Nowadays though, one of the largest ways in which water is expended is through hydroelectric plants. Hydroelectricity is a form of hydropower that is extensively used form of renewable energy in the world. It is electricity that is generated by hydropower which is produced by the gravitational force of flowing water. There are many countries that produce hydroelectric power in the world. Hydropower in general is one of the oldest used renewable sources of energy where many tasks, including grinding of flour, pumping of water and irrigation of fields used to be conducted with.

Energy production and consumption is undoubtedly one of the most apparent parameter of the economic development and poverty alleviation for any country (Modi, McDade, Lallement, and Saghir, 2006). To this day, access to electricity in many African countries is quite low owing to the lack of efficiency to utilize the natural resource like other sub-Saharan countries this is also the case with Ethiopia, in which it has not utilized its water resources to the limits despite of having it.

As many other African countries, Ethiopia is also implementing developmental projects. These projects are also intended as a way of regional integration between neighboring countries. Among the various developmental projects that are being undertaken in Ethiopia, generating electricity by hydropower is one of them. Because of the many advantages that hydroelectric power has, there are various hydroelectric stations that are producing electricity and several more that are under construction. On the Omo River, there are a total of five hydroelectric stations; three of which have already been constructed and two of which are to be constructed. Omo-Gibe basin is one of the significant surface water resources of Ethiopia, which has been considered as one of the potential area for hydroelectric development (Kahssay and Mishra, 2013). Gibe I power station has been giving service since 2004 and Gibe II since 2009. It was reported in All Africa (2015), that the Gibe III hydroelectric power project began power generation on October

2015. This project is one of the largest Hydropower Projects in sub-Saharan Africa. The location of the Gibe III Dam is in a trans-boundary watershed, where the Omo River flows into Lake Turkana, which is shared with Kenya. The purpose of the Gibe III project is to regulate and maintain flood waters and to generate power. Once it is completed, it is expected to generate power to neighboring countries like Kenya, Sudan and many more. By exporting power through regional interconnection system, the country will significantly benefit from foreign currency earning through sales of electricity to the neighboring countries as well as contributing to the regional economic integration (EEPCo, 2010).

This project is not only intended for the development of Ethiopia but is also a way of contributing to regional economic development since it will bring electrical energy to neighboring countries besides Ethiopia. According to the Ethiopian government, this project is expected to improve the living standards of the residents of Omo River area. It is also expected to have positive contributions for the downstream communities by controlling floods and allowing reliable and timely supply for stagnation cultivation. The power supplied by Ethiopia will also support other projects in the region – specifically the Lamu Port and Lamu-South-Sudan- Ethiopia Transport Corridor (LAPSSET), oil developments in the Turkana region, and pumping stations for any Kenyan oil pipeline (Savage, 2014).

Because of the increase in the demand of water supply there is an increasing potential for conflict among countries that share trans-boundary waters. This is also the case with Ethiopia and its neighboring countries. The Gibe III Power Project has been controversial since the day of its conception, due to the fact that many lives depend on the Omo River. Some environmental advocates believe that since Lake Turkana gets most of its water from the Omo River, the construction of the Gibe III Dam will significantly reduce the flow of water. It is also expected to cause a shortage of water both around the Omo River and around Lake Turkana which is devastating because almost all of the inhabitants of this area depend on natural resources for their day to day activities. This reduction in water level is in turn believed to have various effects on Lake Turkana including making the fisheries in the Lake extinct. There are various groups and institutions that are against this project. Hailemariam (2011) also states that the most active environmental watchdogs of the Gibe-III hydropower project include the International Rivers Network, the Friends of Lake Turkana, and Survival International. These groups are concerned

that the Dam will have a negative effect on the people of Lake Turkana as well as the people living around the Omo River. They are also concerned that there has not been a thorough Environmental and Social Impact Assessment when the dam started construction. The critics believe that ESIA was not submitted prior to the beginning of the construction of the Dam. Also, after the studies were made, questions with respect to the quality of the ESIA were still being posed. Nevertheless, the government of Ethiopia rejects these allegations and claims that EEPCo has conducted series of ESIA prior to embarking to the implementation of the project by recruiting international independent experts. Some studies have noted that exclusion of impacts on the Turkana Basin in the Lower Omo Basin Master Plan (funded by the African Development Bank / African Development Fund) was bizarre given the trans-boundary nature of the project (Avery, 2012). Furthermore, the World Bank, the European Investment Bank (EIB), and the AfDB noted that there has been a complete lack of local consultation and environmental impact assessments, and have urged the Ethiopian Government to further investigate these gaps (Savage, 2014).

This paper tried to analyze the ways in which Ethiopia and Kenya can work together in order to bring about cooperation in relation with the construction of the Gilgel Gibe III project. It has also tried to investigate how effective utilization of water can be attained by the two countries in the areas affected by the Gilgel Gibe III project.

1.2. Statement of the problem

Ethiopia is blessed with water resources that can be used to provide food, generate power and be a source of development for the country. The Ethiopian government has a goal for development and one of them is the various hydroelectric projects taking place in the country. In this regard it has built the Gilgel Gibe Dams in the Omo River in order to double the electric power of Ethiopia. Despite the said government's efforts towards development, there is a high resistance to the project from the Kenyan side especially the people around Lake Turkana. This is because Lake Turkana gets about 90% of its water from the Omo River and changes made to this River are believed by some to have an effect on Lake Turkana. Gibe III hydropower project has been strongly criticized for its lack of a wider and more permissive involvement of stakeholders including a number of affected communities near the Gibe III dam (Hailemariam, 2011). In

response to this problem, this research will investigate the level of cooperation that is being taken in order to effectively manage the water in question.

Even though there are countless studies conducted on dams for hydroelectric power projects, not a lot has been done on the cooperation between Kenya and Ethiopia with respect to the Gilgel Gibe III. The problem this study has tried to address is how the Gilgel Gibe III hydroelectric power project can bring about cooperation and effective water resource management between Ethiopia and Kenya. There have been various critics with regards to the construction of the Gilgel Gibe III due to its effects on Lake Turkana and the people around the Omo River. Because of the construction of the Gilgel Gibe III Dam, the water flow of the Omo River into Lake Turkana is said to decrease by 70%. In relation to the consultation process, Kahssay and Mishra, (2013) argue that:

> *Friends of Lake Turkana in this regard stated that the majority of project-affected people located downstream of the dam site in the Lower Omo Valley and around Lake Turkana, are politically and geographically marginalized and only a small number of people, about 93 members, attended the public consultation sessions prepared by Ethiopian government*.

Despite this project being a means of bringing about development both for Ethiopia and neighboring countries, it has struck many controversies. Local and trans-boundary conflicts might become inevitable when there is lack of resources due to environmental degradation. Therefore, there is a need to study the status of cooperation between Ethiopia and Kenya as it relates to Gilgel Gibe III Dam so that there will be an effective and an equitable utilization of Gibe River water resources.

1.3. Objective of the study

1.3.1. General objective

The objective of this research is to explore the role of the Gibe III Hydroelectric Power project in bringing about cooperation and effective utilization of water resources between Ethiopia and Kenya.

1.3.2. Specific objectives

1. Exploring whether there is water related cooperation agreement between Ethiopia and Kenya.
2. Investigating the role of the Gibe III Hydroelectric Power Project for effective utilization of water between Ethiopia and Kenya.
3. Analyzing the implication of the Gibe III Hydroelectric Power Project for Kenya and Downstream Communities.
4. Exploring the conflict resolution mechanisms used between Ethiopia and Kenya to overcome potential problems.

1.4. Research questions

1. How does Gibe III Hydroelectric Power Project lead to cooperation between Ethiopia and Kenya?
2. How does Gibe III Hydroelectric Power Project bring about effective utilization of water?
3. What is the implication of the Gibe III Hydroelectric Power Project for Kenya and the downstream communities?
4. What mechanisms are used between Ethiopia and Kenya to overcome potential problems due to the Gibe III Dam?

1.5. Significance of the study

The vast number of books and articles produced on a certain subject matter can be a way of measuring to weigh its coverage. Although dams for hydroelectric power projects have been an area of study, not a lot of studies have been conducted on the cooperation between Kenya and Ethiopia with respect to the Gilgel Gibe III. To this end, this study can be a way to explore the ways in which Ethiopia and Kenya can cooperate and build an effective way of utilizing water for the better development of the countries involved. As this study has closely evaluated the cooperation between the two countries, it allows other regional economic integrations with respect to trans-boundary water to have a better trend of cooperation. It is especially expected to be important with respect to the utilization of water between landlocked countries with trans-boundary water. Furthermore, the findings of this study can be used as an input for policy makers and negotiators. Moreover, it can serve as an additional source of information among the debates on the Gibe III Project.

1.6. Scope of the study

The scope of this study is delimited to the role of Gilgel Gibe III hydroelectric power project in achieving cooperation and effective utilization of water resources between Kenya and Ethiopia. Thus, this research is specific to the Gilgel Gibe III Hydroelectric Power Project. Moreover, the research is only limited to regions around Omo River in Ethiopia and the regions around Lake Turkana in Kenya. Furthermore, this study did not discuss the Kuraz Sugar Cane Plantation in a detailed manner but has attempted to highlight this project in a way that is related with the subject under discussion. In addition, this paper does not include the Gibe I, Gibe II, Gibe IV and the Gibe V projects unless it is in relation with the Gibe III Project.

One of the main limitations of this study were the remoteness of the area from the research cite which is Addis Ababa, Ethiopia. Since the research site is located in a remote and rural area of both Ethiopia and Kenya and so the researcher was unable to go and conduct the study because of safety reasons. As a result, people considered to be key informants are around the Omo River and Lake Turkana limiting their accessibility and time they had for interviews.

The other limitation put on the study is the non-cooperation of the informants that were sought out for the research. Because of the sensitivity of the topic, some of the informants were resistant to conduct an interview with the researcher. The Ministry of Environment, Forest and Climate Change refused to conduct an interview claiming that the topic was too sensitive. To fill this gap the researcher had to review different documents and get perspective from other key informants.

CHAPTER TWO

2. Conceptual Framework

Water is an essential component in our day-to-day lives and like the air we breathe, we cannot live without it. Water is the only scarce resource for which there is no substitute, over which there is poorly-developed international law, and the need for which is overwhelming, constant, and immediate (Wolf, 1999). Since water is a natural resource, it is shared by international communities and contributes to the wellbeing of the society in terms of food production, consumption, sanitation and the like. From the arid pastoralist areas in the Horn of Africa to communities affected by melting glaciers in Andean South America to the bourgeoning potential for hydropower fueled economies in South Asia, the banner of "water and conflict" is very broad (USAID, 2014).

There are so many ways in which water crosses borders; lakes, rivers and groundwater. These trans-boundary waters are usually a source of life for those living around them. Trans-boundary water might lead to potential conflict when countries attempt to allocate water. This brings about the need for international watercourse law. The concept of water sharing by assigning rights characterized the 20th century and remains the most widely recognized mechanism for riparian states to engage in sharing international rivers (Grey et al., 2005). The Helsinki Rules played an important role in shaping subsequent treaty practice, particularly in Africa, and many of the rules and principles found in the Helsinki Rules are reflected in the later UN Watercourses Convention (Rieu-Clarke et al., 2012).

At the global level, the 1997 Convention on the Non-Navigational Uses of International Watercourses represents an important step forward (Kalinin, 2008). This convention is controversial in the sense that many of the upper riparian states believe that it favors the lower riparian states. It is noteworthy that the three countries that voted against the Convention (Burundi, China and Turkey), and many of those that abstained, such as Bolivia, Ethiopia, Mali and Tanzania, are largely upper riparian states (Eckstein, 2015). Regardless, this recognition of international watercourses by the international community paved the way for numerous treaties, protocols and conventions in relation to trans-boundary watercourses to emerge. There are

various principles in the international watercourses that are relevant to trans-boundary water resources. Among them are: Reasonable and equitable utilization, Not to cause significant harm, Cooperation and information exchange, Notification, consultation and negotiation and Peaceful settlement of disputes. This literature review will briefly look at some of the relevant aforementioned principles.

This chapter also aims at delivering the controversial sides of the Gibe III Dam constructions. It will highlight the arguments of those that are against the construction of the Gibe III in line with the argument and justification of the Ethiopian Government. In light of that, this chapter will also make an effort to give a brief overview of how the Gibe III hydroelectric power project can bring about cooperation and effective water management between Ethiopia and Kenya. It is evident that development can be an important factor for peace and security of a given nation. For there to be an effective growth of one country there needs to be a peaceful coexistence between countries sharing borders. Moreover, if countries share natural resources then there is a need for effective and efficient utilization of the resources to enhance better relationships.

2.1. Trans-boundary Waters

About 40 percent of the world's population lives within the basins of international rivers, and, perhaps even more significantly, over 90 percent of the world's population lives within the countries that share these basins (Grey et al., 2005). Rivers have various benefits to those living around them, which leads states to try and bring benefits out of them. As populations and economies grow, and as less contentious national water resources become more fully exploited, an increasing share of the remaining development opportunities will be on international rivers (Grey et al., 2005). This renders the management of water between riparian states inevitable.

Different theories and principles reflecting varying state practice on the uses of international rivers and lakes started to emerge late in the 19th century (Salman, 2007). Some of these principles that came about but didn't get recognition were; absolute territorial, absolute territorial sovereignty and the community of co-riparian states in the waters of an international river. While all of these principles were disregarded, the one that passed the test of becoming the foundation of modern international water law was the principle of limited territorial sovereignty.

The United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses was adopted by the United Nations General Assembly on the 21st of May 1997 and was entered into force on the 17th of August 2014. Ethiopia is one of the 26 countries that abstained from the UN Watercourses Convention. Therefore, Ethiopia does not have to abide by the rules of the Convention. Kenya on the other hand is one of the 106 countries that are in favor of the UN Watercourse Convention. Hence, unless there is a mutual understanding to cooperate on trans-boundary waters between the two countries, there are no international rules that can govern these two countries. This is because not both but only one country has ratified the convention.

2.2. Principles of trans-boundary waters

2.2.1. Equitable and reasonable utilization and participation

The principle of equitable and reasonable utilization of international rivers deals with utilizing shared water in an equitable manner. In other words, every riparian state has the right to utilize its water freely, but this freedom is limited by the obligation not to cause harm on the co-riparian state.

Chapter 2 of the Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes (Hereinafter called the Helsinki Rules) is about equitable utilization of the waters of an international drainage basin. The Helsinki Rules established the principle of "reasonable and equitable utilization" of the waters of an international drainage basin among the riparian states as the basic principle of international water law (Salman, 2007).

The Convention on the Law of the Non-navigational Uses of International Watercourses has also provisions related to the reasonable and equitable utilization of waters. Part II, Article 5 of the Convention talks about the equitable and reasonable utilization and participation. According to McCaffrey (2008), it requires that a State sharing an international watercourse with other States utilize the watercourse, in its territory, in a manner that is equitable and reasonable *vis-à-vis* the other States sharing it. On the other hand, Article 6 of the Convention elaborates on the factors that are relevant to equitable and reasonable utilization. The goal is to utilize these resources in

an optimal and sustainable way, while paying special regard to vital human needs and to the interests of the other watercourse states (Articles 5-7, 10) (Loures et al. , 2009).

2.2.2. Not to cause significant harm

The "no harm" principle is one of the most controversial principles in UN Watercourse Convention. It entails upstream states to take measures not to harm downstream states when utilizing an international watercourse. If any significant harm is to be caused, it is the duty of the upstream state to compensate the downstream state. However controversial it may be, this principle has gained worldwide acceptance. Many trans-boundary water agreements and international environmental laws incorporate this principle.

The obligation not to cause significant harm is not incorporated in the Helsinki Rules in a separate manner. Rather, the factor for equitable utilization is determined by the injury that may be a consequence of one riparian. Salman, (2007) elaborates that another factor included in the Rules that needs to be considered in determining equitable utilization is past utilization of the waters of the basin, including in particular existing utilization. The primary rule for the Helsinki Rules is the principle of reasonable and equitable utilization. The obligation not to cause harm is more of an element to the principle.

Article 7 of the Convention on the Law of the Non-navigational Uses of International Watercourses is about obligation not to cause harm. According to sub article 1 of this article; States are obliged to take all the appropriate measures in order to prevent causing significant harm to other watercourse States. The emphasis on prevention is important, since it is often difficult to stop or modify an activity once it has begun, and it can be very complicated and expensive, if indeed it is possible, to remedy harm once caused. While there has been debate, both in the negotiation of the Convention and in the literature, about the relationship between the principles set forth in articles 5 and 7, the two are best seen as being complementary (McCaffrey, 2008). In other words, the provisions relating to equitable utilization and no harm principles should be seen as harmonizing one another. McCaffrey (2008) further elaborates that two articles work in tandem in the following way: if a State believes it has sustained significant harm due to a co-riparian State's use of an international watercourse, it will ordinarily raise the issue with the second State.

2.2.3. Cooperation

Achieving international cooperation is always a long and complex journey, for which there is no single path and few short cuts (Grey et al., 2005). Countries that share water bodies need to cooperate and jointly explore opportunities and trade-offs to maximize sustainable development (Jägerskog and Zeitoun, 2009). Notwithstanding the regional and subject-specific challenges and concerns, there is a clear consensus that trans-boundary waters should be managed on the basis of cooperation and the equality of all riparians in the use of shared watercourses (Eckstein, 2015).

Article 8 (1) of the Convention on the Law of the Non-navigational Uses of International Watercourses states that: Watercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse. This article poses an obligation on states that share trans-boundary water to cooperate with one another in order to get the best out of their shared water. Sub Article 2 of the same Article further elaborates that: In determining the manner of such cooperation, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate cooperation on relevant measures and procedures in the light of experience gained through cooperation in existing joint mechanisms and commissions in various regions. For example, under the Convention, all riparians – regardless of whether upstream or downstream – must abide by the instrument's detailed notification procedures before embarking on measures that may affect an international watercourse (Eckstein, 2015).

2.3. Hydroelectric Power Projects

According to the World Energy Council (2013), population growth has always been and will remain one of the key drivers of energy demand, along with economic and social development. Energy is available from many sources however most of the energy used to satisfy the world's ever increasing demand for electricity is still derived from fossil fuels (Electropeadia, 2005). Fossil fuel energy includes; coal, oil and natural gas. Even though there are advantages to fuel fossils, there are also various disadvantages in using it. According to BBC (2014), fossil fuels are non-renewable energy resources. Carbon dioxide is released when fossil fuel is burnt; this

increases global warming as it adds to the greenhouse effect. Further disadvantage stated by BBC (2014) is that coal and oil release sulfur dioxide gas when they burn, which causes breathing problems for living creatures and contributes to acid rain. Maehulum (2013), also supports this idea by listing out the disadvantages of fossil fuels as contributing to global warming, being non-renewable, unsustainable, incentivized, and the causes for accidents to happen.

People have used moving water to help them in their day-to-day activities throughout history, and modern people make great use of moving water to produce electricity (USGS, 2016). In 2011, hydropower provided 16 percent of the world's electricity, second only to fossil fuels ("How Hydroelectric Energy Works," n.d.). Hydropower is the most widely-used renewable power source, with the global hydroelectric installed capacity exceeding 1,000GW, accounting for over 16% of the world's net electricity production and more than 65% of the global power generation capacity from renewable sources (Power technology.com, 2014). While fossil fuels still hold a dominant position globally, the role of renewable energies – including hydropower, solar, wind, geothermal and biomass – is increasing (IHA 2015). The report further elaborates as follows:

> *In addition to being the world's largest supply of renewable electricity, the unique characteristics of storage hydropower (i.e. hydropower with reservoir, including, but not limited to, pumped-storage hydropower) make it well suited to enabling the increased penetration of other more variable renewable energy technologies, specifically wind and solar power* (IHA (2015, p.16)).

Renewable energy sources are projected to account for more than one quarter of global electricity production by 2020 (Power-technology.com, 2014). Since hydropower depends on rivers and streams for generation, the potential to use hydropower as a source of electricity varies across the countries (Union of Concerned Scientists, n.d.).

Hydroelectric power generation is by far the most efficient method of large scale electric power generation (Electropedia, 2005). Hydropower is renewable by its nature and does not in any way pollute the environment. However, hydropower facilities can have large environmental impacts by changing the environment and affecting land use, homes, and natural habitats in the dam area

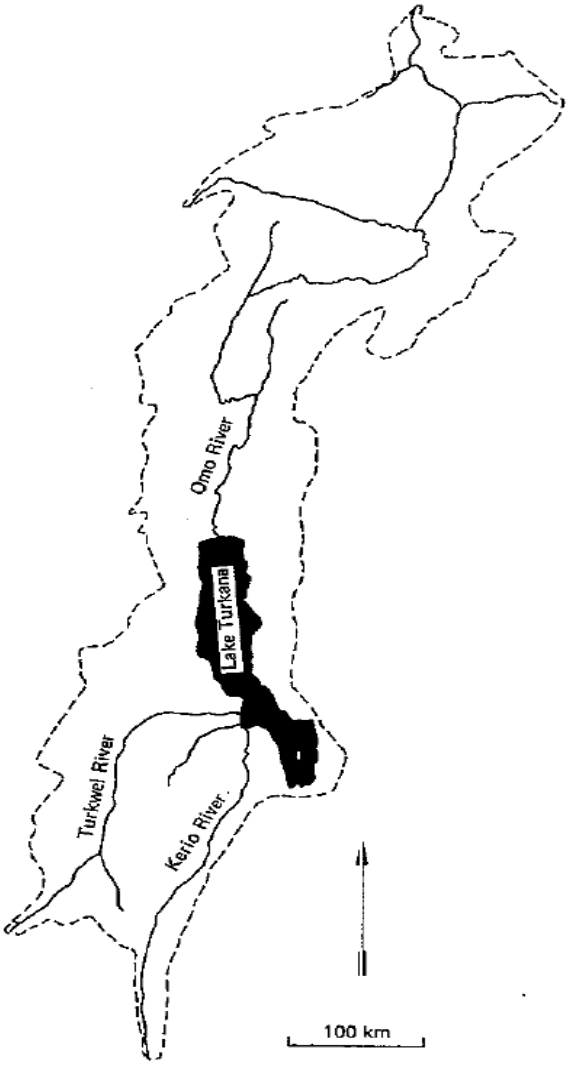
(USGS, 2016). Power-technology.com (2014) also asserts that hydropower projects have, however become controversial during recent years due to the environmental and social impact related to bio-diversity and human resettlement. While hydropower generation does not emit global warming gasses or other air pollutants, the construction and operation of hydropower projects can have environmental and societal consequences that greatly depend on where the project is located and how it is operated (Union of Concerned Scientists, n.d.).

2.4. Overview of the Omo River and Lake Turkana

Ethiopia has 12 river basins, 8 of which are River Basins, 1 Lakes Basin and the remaining 3 Dry basins, with no or insignificant flow out of the drainage system (Ministry of Water and Energy, 2014). The Omo Gibe River is located in the Southwestern part of Ethiopia. Descending from the central Ethiopian plateau, the Omo River meanders across the countries' parched southwest before spilling into Kenya's Lake Turkana, the world's largest desert lake (International Rivers, n.d.). Its course is entirely contained within the boundaries of Ethiopia, and it empties into Lake Turkana on the border with Kenya (World Heritage Encyclopedia, 2014).

Figure 1: Physical extension of Lake Turkana Basin

Lake Turkana Catchment Area [2] and Gibe III location



Source: Ethiopian Electric Power Corporation (EPPCO), 2010

As seen above from the map, the Omo River flows straight to Lake Turkana which confirms that the former is the main source of water for the latter.

The Lower Omo Valley is inhabited by a wide variety of ethnic groups, including the Bodi, Dasanech, Hamer, Karo, Kwegu, Mursi, Nyangatom, and Suri (Narissa, 2014). The Lower Omo Valley, a UNESCO World Heritage Site, is home to an estimated 200,000 agro-pastoralists from eight distinct indigenous peoples who depend on the Omo River's annual flood to support river-bank cultivation and grazing lands for livestock (International Rivers, 2009). The numerous Omo Valley tribes practice a sophisticated system of flood-retreat agriculture (and fishing) and seasonal grazing – systems that enable significant populations to secure subsistence with marginal environmental impacts on other species and ecosystem services (International Rivers, 2013). According to the Ministry of Water and Energy:

> *The complex interaction between the climate, biophysical and socio-economic characteristics of Ethiopia resulted in important features of the basins such as high level of spatial and temporal variability of flow, enormous turbidity, and tremendous potential for hydropower in the highlands and irrigation in the lowlands ad sceneries along the major gorges system* (2014, para. 5).

Lake Turkana on the other hand is located in the Northern part of Kenya. The long body of Lake Turkana drops down along the Rift Valley from the Ethiopian border, extending 249 kilometers from north to south and 44 km at its widest point with a depth of 30 meters (UNESCO, n.d.). The lake is sustained by the inflows of Ethiopia's Omo River, which alone provides 90% of the lake inflow (Avery S., 2010).

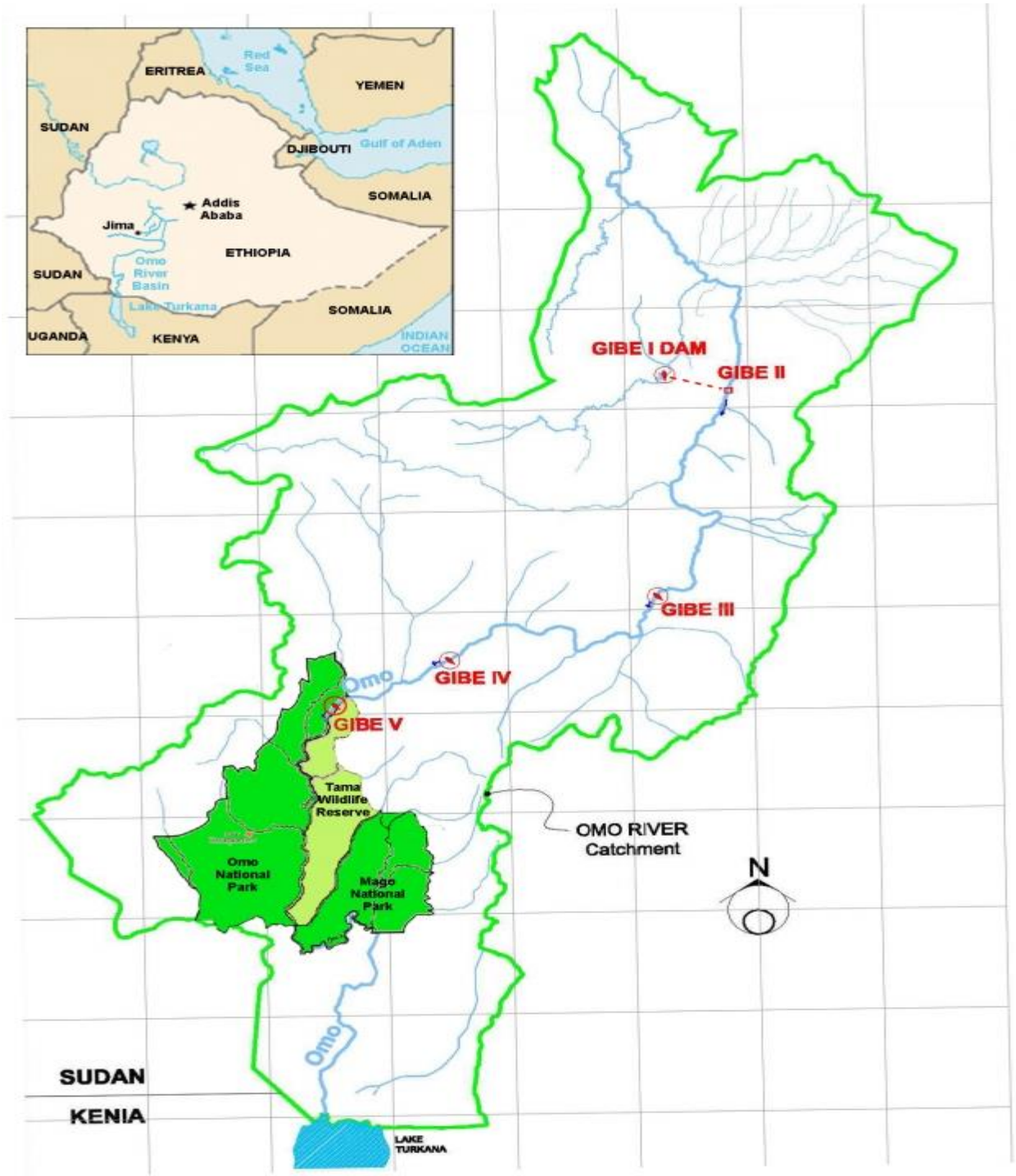
Various ethnic groups living around the lake include the Dasanach, El Molo, Gabbra, Rendille, Samburu, and Turkana (Allibhai, 2014). The 300,000 people living off Lake Turkana have varied livelihoods—most fish or keep livestock (cattle, sheep, goats, camels, donkeys), some practice flood-recession agriculture, a few hunt for crocodiles and hippos, and a few are camel pastoralists (Avery S. , 2013). These peoples' livelihoods depend mainly on the Lake Turkana. For the people living in the Lower Omo and Turkana region, the fisheries and water resources are of critical importance to their livelihoods (Savage, 2014). The impoverishment of the wetland and lake ecosystems of Turkana, the Delta and Lower Omo will lead to unpredictable changes in biodiversity and ecosystem functions and services (International Rivers, 2013).

2.5. Gibe III Hydroelectric Power Project

Hydropower is not a new source of electricity in the history of Ethiopia's energy sector. Its beginning goes back over seventy years (Hailemariam, 2011). Geothermal exploration work in Ethiopia started in 1969 and continues up to now (World Energy Resources, 2013). Originally conceived in the mid-1990s, and encouraged by international development agencies, the Ethiopian government moved toward implementation of the Omo hydrological project in the late 2000s (International Rivers, 2013). The reason for this is that, Ethiopia has abundant natural resources that have not been utilized to its full capacity and so the government, along with trying to develop the country, is trying to utilize its natural resources effectively.

While the Nile attracts the most attention, the Omo River is no exception to trans-boundary water management challenges (Savage, 2014). The Gilgel Gibe III Hydropower Project, which is owned by the Ethiopian Electric Power Corporation started construction in 2006. It is the third in a cascade of hydro projects along the Omo River, and fourth and fifth projects further downstream (Gibe IV and V) are being studied (Avery S., 2010). The Gibe III project will be the second largest hydroelectric project ever undertaken in the country and it is expected to generate about 1870 MW and 6,400 GWh of firm energy per year (Kahssay and Mishra, 2013).

Figure 2: The Gibe Dams in the Omo and Turkana Valley



Source: International Rivers, 2012

The dam will also enable significant amounts of water to be abstracted from the river to irrigate large sugarcane and cotton plantations (Carr, 2012). Hydroelectric development, irrigated commercial agriculture (specifically sugar plantations), major road infrastructure, and oil exploration are some of the known plans for the region (Human Rights Watch, 2012). Downstream of Gibe III lie two UNESCO World Heritage sites, the Lower Valley of the Omo River and Kenya's Lake Turkana (Allibhai, 2014).

2.6. The Dilemma of the Gibe III Dam

The Gibe III project has been a controversial topic since its inception. There are various groups that oppose the idea of this project claiming that it can damage Lake Turkana and the livelihood of communities living there. On the Ethiopian government's side on the other hand, there are many justifications for the construction of the dam and how it can be helpful not only to Ethiopia but also to other neighboring countries including Kenya since there is an agreement to sell electricity to them.

When this project started the key players of this project were: EEPCo, Salini Costruttori S.A., African Development Bank, European Investment Bank, Government of Italy, Government of Kenya, Ethiopian Diaspora, and East African Power Pool (International Rivers, 2009). But not all of these groups would actually continue to fund the project. The African Development Bank, the World Bank, and the European Investment Bank withdrew funding consideration for the dam in 2010 (Allibhai, 2014). The donors and the Ethiopian government could not come to an understanding on the matter regarding the ESIA that was supposed to be done before the construction of the Dam and so the funding had to come to an end. According to Allibhai (2014), the project's main external funding partner then became the Industrial and Commercial Bank of China, which loaned $500 million to Chinese subcontractor Dongfang Electric Corporation. The project's US$1.7 billion contract was awarded without competition to Italian construction giant Salini, raising serious questions about the project's integrity (International Rivers, n.d.).

The primary objective of EIA, as put by Modak and Biswas (1999), is to ensure that potential problems are foreseen and addressed at an early stage in the projects planning and design. Therefore, ESIA of a hydropower project could have a positive impact on the project. When this process is conducted in a transparent and participatory manner, it is assumed that there will be a general concession among participants and the challenges affecting the project implementation become less (Hailemariam, 2011). In order to address the potential challenges at the initial phase of the project, the assessment should provide information on the environmental, social and economic benefits of proposed projects which should then be presented to decision makers (Hailemariam, 2011). Modak and Biswas (1999:21) have summarized five key principles in managing EIA:

i) focus on the main issues,

ii) involve the appropriate persons and groups,

iii) link information to the decisions about the project,

iv) present clear options for the mitigation of impacts and for sound environmental management, and

v) provide information in a form useful to the decision makers.

There are many ways in which people react to losing their source of livelihood, including conflict. According to the many that are advocating against the project, Gibe III dam is expected to leave many negative impacts. Some hydrologists have predicted that Ethiopia's expansion of water-intensive sugar and cotton plantations on the Omo River, which the Gibe III dam allows, could reduce flow to Lake Turkana by up to 70% (Vidal, 2015). This endangers the lives of many people settling in that area due to their loss of means of support. This makes people compete for natural resources which may in turn lead to an actual conflict. When told of the possible impact of the project, ethnic groups and communities near the lake predicted widespread conflict, hunger and cultural devastation (Vidal, 2015). The communities living in the affected area are also living in fear of clash between the two countries because of the expected deficiency of the water which affects their attainment of food. Helen Alogita, a seed seller, told researcher Narissa Allibhai that she feared the people living on the other side of the lake (Vidal,

2015). Allibhai also stated that their messages to the Kenyan and Ethiopian governments and the international community reflect their despair, and feelings of helplessness, anger and betrayal (Vidal, 2015).

Many had issues when it came to the time in which the EIA for the Gibe III was conducted. There has been criticism voiced in the international media that an EIA had not been submitted for Gibe III prior to commencing construction (Avery S., 2010). There were ESIA conducted by the EEPCo but they were not released until 2009, whereas the construction of the Gibe Dam started in 2006. According to the Human Rights Watch, (2012) the resettlement action plans were limited to the resettlement of 2,278 citizens to be displaced by an electricity transmission line, a road realignment, and the reservoir that would be created behind the Gibe III dam. Donor agencies in many developed countries, and development organizations such as the World Bank made EIA one of the major requirements to support proposed development projects like large-scale hydroelectric dams (Hailemariam, 2011). And so, on the basis of the ESIA, the World Bank, AfDB and many others ceased to fund this project.

Since its [Gibe III Dam] inception in 2006, international human rights groups have repeatedly accused the Ethiopian government of driving indigenous minority ethnic groups out of the Lower Omo Valley and endangering the Turkana community (Tadesse, 2015). Claudia Carr at the University of California at Berkeley reported that large numbers of Mursi people in the north of the basin and Dasanech groups along the eastern shore have already been removed by the Ethiopian government (Arnold, VOA, 2013). Ethiopia refers to its relocation processes as "voluntary villagization," but international bodies have documented severe human rights abuses in this process (Human Rights Watch, 2012).

According to a research done by Allibhai (2015), which consisted of interviews around Lake Turkana County, the community members are opposed to the dam and irrigated plantations, as it will deprive them of their livelihoods and lead to increased famine, conflict, and death. International Rivers (2013), also predicts that; based on the recent history of conflict among local communities in this region, they are expected to react largely through raids and warfare.

On top of building the Gilgel Gibe III Dam, there is also a sugar cane plantation that is to be constructed. It is a project found in South Omo Zone (Selamago and Gnanegatom Woredas); Bench - Maji Zone (Surma Maji and Mieinitshasha Woredas) and Keffa Zone (Diecha Woreda) of Southern Nations, Nationalities & People Region (Sugar Corporation, 2015). The Kuraz Sugar Scheme project was initiated in 2010 by the Ethiopian Sugar Corporation in the Lower Omo Basin, which would involve water extraction from the Omo River to irrigate an area of 111,650 ha (UNESCO, 2015). Irrigation of these sugar plantations will require drastic withdrawal of water from the Omo River through Gibe III (Narissa, 2014). To plant the sugar plantations, the government eradicated all vegetation from large areas of the Lower Omo Valley, known for its bio-diverse grasslands and riverine forests (Wilson, 2015). The resettlement action plan does not include any of the resettlements that are currently underway in the sugar plantation areas downstream of Gibe III. Meanwhile, the Gibe III Dam could reduce the water level in Lake Turkana, a UNESCO World Heritage site and the world's largest desert lake, by up to 20 meters – devastating fish and destroying sensitive habitat (Wilson, 2015). The developments may also trigger increased conflict among communities that depend on their livestock, which are already competing for grazing lands and water (Horne, 2015).

On the other hand, the Ethiopian government rejects most of the accusations and has withstood the efforts to stop the dam and has finally completed the Dam in October 10, 2015. The Ethiopian authorities have categorized criticism from international environmental, human rights and development agencies as attempts to prevent the country's efforts to escape from poverty (International Rivers, 2013). According to UNEP (2013), as this project does not impound any water itself, it is assumed to have no substantial impact on Lake Turkana water levels. But this is only true if the project was only engaged in the construction of hydroelectric power project and not also doing an irrigation project. Leaving aside impacts on Lake Turkana from use of Gibe III for hydropower generation, the most significant and worrying consequences will arise from using the river to irrigate plantations (Narissa, 2014). International Rivers (2013) fear that the long-term effect could parallel what has happened, for example, to the Aral Sea in Central Asia, which has now practically disappeared. One of the biggest human caused environmental mismanagements that caused a steady shrinking of moving water is the case of the Aral Sea. UNEP published a report which is based on a study that used satellite-based data and a robust

modeling approach to shed light on some aspects of the hydrologic impact of Gibe III hydroelectric dam on Lake Turkana water levels (UNEP, 2013). From the many findings of this study the UNEP (2013), specifies that based on the model simulation, the impact of the Gibe III dam on Lake Turkana water levels was found to be within the natural variability of the lake observed since 1992.

According to Article 92 (3) of the FDRE Constitution, *People have the right to full consultation and to the expression of views in the planning and implementation of environmental policies and projects that affect them directly.* It is also stipulated under Art 15 of the Environmental Impact Assessment Proclamation No. 299/2002, there should be public participation when such developmental activities are being undertaken. Sub Art 1 of the same Art elaborates that *The Authority or the relevant regional agency shall make an environmental impact study report accessible to the public and solicit comments on it.* The Gibe III official resettlement action plan revealed that a total of 24 consultations were held with more than 455 project affected people, communities and local officials from the project area (Kahssay and Mishra, 2013). During census and action economic survey, a number of consultations were carried out with PAPs and communities group and selected communities at different location (EEPCo, 2009). Even though the Ethiopian government claims of consultations being carried out in the affected areas International Rivers (2013) suggests that, Reports by human rights groups have documented an absence of consultation and growing resistance on the part of indigenous Omo peoples. It is also stated by the International Rivers (2009), that consultation with indigenous community representatives in the Lower Omo Valley was negligible and only occurred after construction had started.

Even though there were great criticisms when it comes to the construction of the Gibe III Dam, the Ethiopian government was always trying to show the advantages of the Dam. According to the EEPCo (2010), the ESIA assessments conducted by the international consultants have been performed on the basis of the requirements and guidelines of the Environmental Protection Authority (EPA) of Ethiopia, and the various international standards and policies. PM Meles Zenawi had underscored that Ethiopia would only be able to lift its people from poor living standard through using and exploiting its own natural resources (Hailemariam, 2016). Therefore, in order for Ethiopia to develop, there needs to be a proper utilization of its natural resources.

According to EEPCo/ESIA (2009), the project will have economical, social, and environmental advantage for the country in particular and for Eastern Africa in general. The power generated will be fed into the country's national grid, thereby influencing Ethiopia's socio-economic development (Tegenu, 2015). Among the many positive contributions of the GG III to the downstream area, according to EEPCo, regional benefits are one of them. Regional benefits listed out by the EEPCo (2010), are:

- Strategic partnership and economic integration in the region which will have significant contribution for regional economic cooperation and stability.
- Lower unit energy costs for the receiving systems
- Shifting from the expensive and insufficient thermal generation to hydro generation in the regional as well as international power markets.
- Accelerating cross-border electricity trading with the neighboring countries and further to other nearby countries.
- Hydropower counterbalances energy capacities and reduction of CO2 emissions by thermal or other types of generation plants. (About 4.5 million t/y of CO**2** emission).

2.7. Gibe III: source of conflict or means of cooperation

Among the many factors that render Africa unstable is its lack of economic cooperation. The many agreements with respect to trans-boundary water are confined to large basins. There are very few international river basin agreements or cooperative arrangements in the small trans-boundary basins where development activities such as dam building and/or irrigation development are currently taking place (UNEP, 2013). Development of these rivers can elicit extremes of cooperation or dispute or can elicit reactions anywhere in between these extremes (Grey, 2005). Building effective cooperation on trans-boundary waters is always a lengthy and complex journey (Jägerskog and Zeitoun, 2009).

As discussed earlier, the aim of Ethiopia in building Dams throughout the country is not only for the development of the country but also to strengthen its regional integration. Therefore, the hydro dam constructions can play a pivotal role in making harmonious relations and cooperation with neighbors (Bayeh, 2014). Although several new dam projects are currently underway in African nations, many of them are happening in the international river basins which do not have trans-boundary agreements in place (UNEP, 2013).

Bilateral discussion between the States Parties of Kenya and Ethiopia on the utilization of the resources of the Omo River basin was reported by the State Party of Kenya in its 2012 state of conservation report (UNESCO, 2015). The mission also noted a joint UNEP project on sustainable development of the Lake Turkana and its river basins was signed by the States Parties in March 2015 (UNESCO, 2015). UNEP further elaborated that:

> *Considering the future interests of Lake Turkana, the people within the Ethiopian and Kenyan areas of the Lake Turkana basin and for the protection of the cradle of mankind – the Lake Turkana region – a transboundary water agreement to govern the use of Omo River flows is needed* (UNEP, 2013, p. 11).

Now the fate of the region depends on the ability of Kenya and Ethiopia to jointly manage the waters of the Omo River in the Turkana basin (Arnold, 2013). Much recent literature exists on the imperative of cooperation between nations sharing international rivers, but little has been written on the practicalities of achieving it (Grey et al., 2005).

In Africa, the demand for electricity exceeds the capacity of the domestic supply of powers. This allows neighboring countries with less capacity of generating hydropower development to be supported by those that have hydropower resources which exceeds their domestic electricity demand. For example, Ethiopia has tremendous hydropower potential, but does not have sufficient domestic demand to justify its full development (World Energy Resources, 2013). Neighboring countries Kenya and Sudan, on the other hand, do not have domestic hydropower potential and can benefit from the electricity provided by hydropower development in Ethiopia (World Energy Resources, 2013). While Kenya criticized the Gibe III dam, which may have a disastrous effect on the lives of many Kenyans, its criticism ceased when the two countries signed a deal to export electricity to Kenya in 2012 (Horne, 2015). Of course there are many that

oppose this idea since it is considered as giving in to the Ethiopian government and this could cause a lot of damage to the people living near the Gibe III. Kenya recently announced plans to enter negotiations with Ethiopia, aiming to develop a bilateral agreement (Water Politics, 2013). Kenya has only signed a Memorandum of Understanding for purchase of electricity from the plant (Tegenu, 2015). After this though there have been advancements made by both countries and some parts of the power is already being sold.

As for Horne (2015), he believes that while Kenya desperately needs electricity, this should not prevent it from pressing the Ethiopian government to mitigate any serious effects associated with the Gibe III dam and the irrigated commercial agriculture on the downstream communities of Lake Turkana. Water Politics (2013), also warns that Ethiopia's plans for extensive development of hydropower promise considerable economic reward, but if they are not well executed, they could contribute to water and food scarcity, as well as adding to local and regional conflict. However, Wolf stressed that, although water can be a source for tension, it can also be a catalyst for creative, peaceful solutions (Kozacek, 2011).

CHAPTER THREE

3. Methodology and Research Design

3.1. Research Site

In order to have an inclusive understanding of the problem, the researcher tried to obtain data from organizations and persons relevant to the study. Information was collected from organizations in Ethiopia such as the Ministry of Federal and Pastoralist Development Affairs, he Gibe III Hydroelectric Project Office, Ministry of Water, Irrigation and Energy and the Embassy of the Republic of Kenya. There was also data collected from an international organization called International Rivers.

The study was primarily undertaken in Ethiopia. Since the study focuses on the Gibe III as a source of cooperation and effective utilization of water, it will be limited to the boundaries of Ethiopia and Kenya.

3.2. Methodical Consideration and Choice

After a thorough consideration of the different approaches, it has been found suiting to utilize a qualitative approach for this research. In this study, semi-structured in-depth interviews were conducted with informants who were selected purposively based on their relativity to the issue. Snowballing mechanism was also used in this research so as to increase the information for the research along with getting information from people that were not first thought of in the sampling process but have been found useful. Therefore, the researcher was able to reach other informants through the informants that were already purposively selected.

Methodology is a set of practices which outlines the approach on how a research is carried out and what methods are used. According to Kothari (1990), research Methodology is a way to systematically solve the research problems. It should also be noted that research methodology cannot used synonymously with research methods. The scope of research methodology is wider than that of research methods (Kothari, 1990). Therefore, a research method is only one part of a research methodology as the latter also explains why a certain method is used for the research.

The major methodologies in social science are quantitative, qualitative and mixed approaches. Qualitative research is concerned with finding the answers to questions which begin with: why? How? In what way? (Hancock, 2002). Quantitative research, on the other hand, is more concerned with questions about: how much? How many? How often? To what extent? (Hancock, 2002). Whereas a mixed research is a hybrid of both as it give statistical and also comes up with the different features of a phenomena (Dawson, 2003, P.14-15). Qualitative studies also often focus on gathering data from face-to-face interviews, focus group discussions or observations. Moreover, compared to quantitative methodology, qualitative methodology use smaller samples in their research.

In this study, the researcher has chosen that qualitative approach as an appropriate approach for exploring the research problem and answering the research questions posed. The rationale behind this is that, qualitative research approach allows the study to have the flexibility that is required in most social studies. Thus, the researcher was able to restructure and add questions and concepts and also adjust the data collection tools and data collection methods from information collected because the data collection method chosen was flexible. The data collection process also changed as doors opened and closed therefore researcher had learned the best sites from which researcher could learn about the central phenomenon of interest (Creswell, 2003, P.192). The researcher also believes in using qualitative approach because it comprises deeper understanding of the phenomena under study and gives abundance of data. This approach was also chosen because it helps in the reaching process of how the Gibe III Project leads to cooperation and not conflict.

3.3. Method of Data Collection

This research has used both primary and secondary source of data. Primary data is information that is collected by the researcher. Whereas secondary data is data from other sources, i.e. data was collected and analyzed by others and were used by the researcher (Kothari, 2004).

3.3.1. Primary Data

Since primary data is firsthand information that is collected by the researcher, it makes the research more reliable and has a viable outcome. The collection of primary data for this research was conducted through comprehensive interviews of informants who were purposefully selected. The informants that were purposively selected provided the researcher of contacts of more informants that they believed had pertinent information on the research justifying the snowballing strategy for the research. The interview questions were semi-structured because it allows the informant disclose the factual conditions on the ground and allowed the informants to feel free to pass on their information.

3.3.1.1 Interview

Interviews are oral questions that are asked by the interviewer in order to obtain information from the interviewee for a specific purpose. An in-depth interviewing technique is used by the researcher as the main data collection tool since it offered the opportunity to seize rich, descriptive data about people's perceptions and attitudes towards the subject in question.

Interview processes can be unstructured, semi-structured or structured. For this research, the structure of the interview that was employed was semi-structured which was coupled with a series of open ended questions. This has allowed the researcher to get more information as it requires a response with depth and has length.

The researcher prepared two sets of interview questions that were used for interviews at Ethiopian Governmental Offices, the Kenyan Embassy and a Non-Profit Organization. In total there were 10 informants that were chosen purposively for the interviews. The questions posed were flexible so as to allow further information to be probed from the informants.

3.3.1.2 Sampling

This research has adopted a qualitative approach that has allowed the researcher to apply a purposive and snowball sampling techniques. The purposive sampling technique is expected to allow the researcher to interview purposively selected informants who have experiences in the subject matter. This sampling technique has aided the researcher to interview informants that

were purposively selected and have either knowledge of the Gibe III Dam or had a role in the construction. Snowball sampling was also applied for this research as it made more information accessible for the researcher.

For the interview, total of 10 respondents were selected from Gibe III Hydroelectric Project Office, Ministry of, Water, Irrigation and Energy Ministry of Federal and Pastoralist Development Affairs, Embassy of the Republic of Kenya and International Rivers. The researcher had also attempted to conduct an interview with the Ministry of Environment, Forest and Climate Change but was unsuccessful because of lack of cooperation. For the purpose of this study, the researcher selected a particular subset of people that are involved directly or indirectly with the Gibe III Project and those affected by it. These experts were chosen because of their expert knowledge of the study area.

Among the 10 interviewees, one of the key informants is from the Gibe III Hydropower Project Office, two were from the Ministry of Water, Irrigation and Energy, three were from Ministry of Federal and Pastoralist Development Affairs, and two of them were from International Rivers. Four of the ten Key informants wanted to remain anonymous. The interviews were guided by research questions that were organized by the researcher and have been attached as an appendix on the research paper. Since some of the participants were not present in Addis Ababa, Ethiopia, the researcher had to use emails to contact them which then led to Skype call interviews.

3.3.2. Secondary Data

The secondary sources that were used in this research were those sources that were both published and unpublished. The researcher reviewed survey of reports, government documents, published and unpublished materials, books, journals, policies, reports, articles, research findings and conference papers. These data were gathered from IPSS, the Gibe III Project Office and the internet. Careful selection was made in reviewing these documents in order to acquire reliable and relevant information.

3.4. Analysis Method

After gathering the information that is needed for the research from both the primary and secondary sources, the researcher selected the relevant information, coded it, decoded it and

triangulated it with available literature and documents. In order to address the background, the literature review, analysis and documents secondary data was used. Nevertheless, the researcher used primary data for the most part of the analysis, finding and conclusion part of the research.

As the study has collected qualitative data through reviewing documents and conducting interviews the researcher has adopted narrative method of data analysis. The researcher has described the role of the Gibe III in bringing cooperation between Ethiopia and Kenya. Thus, information obtained was triangulated with other literatures to arrive at the synthesis presented. To sum up, researcher has employed a narrative research restoring the informants' knowledge using structural devices that were triangulated with documents that were reviewed (Creswell, 2003, P.201).

3.5. Ethical Consideration

While conducting this research the researcher has undertaken fundamental ethical considerations. The researcher has respected those interviewees that wished to remain anonymous and disclosed the names of those that consented to do so. Reliable and valid information was able to be gained from the informants as they were asked whether they want their names to be disclosed or not. To ensure this, the researcher had to devise a mechanism in which the informants were informed about the researcher, the study and its purpose (Dawson, 2002, P.146-154). The participants were also informed of how the data collected was going to be used.

The researcher has also recognized and acknowledged the work of other scholars and documents used. Therefore, as per the recommendation of the IPSS guideline, the APA guideline is used as a reference tool.

CHAPTER FOUR

4. Discussion and Analysis

This chapter is dedicated to the presentation and analysis of data. The analysis is set out to answer the research questions and address the objectives of the paper.

4.1. The Focus on Hydroelectric Power Projects in Ethiopia

Ethiopia has been focusing on hydroelectric power projects for several decades now for various reasons. Compared to other conventional power generation methods like wind and solar energies, the investment cost of hydroelectric power is cheap and the return is also better. According to Key Informant 2 (personal communication, May 4, 2016), Ethiopia's reason for the focus on big hydroelectric power projects is that it has a proven high potential for power generation. Therefore, even though the construction cost of hydropower is high, the return is higher. Also, once the construction is done, the running cost will be very low. Key Informant 1 (2016), on the other hand believes that the reason for the focus on large scale hydroelectric power projects is due to the fact that it is part of the green energy, for example; most industries or companies have a high level of carbon energy but hydropower is green. One of the many reasons why the government is focusing on hydropower projects is, since Ethiopia is blessed with water resources when compared with other African countries it can use its water for other purposes than for drinking. One of the informants stated that the government is trying to avoid anything that is wasteful and is trying to utilize every resource in a way that is beneficial to the country. Consequently, the government has turned its face to these kinds of projects so that it can utilize its natural resources in an effective manner.

The Minister for Federal Affairs and Development of Pastoral areas, K. Tekleberhan (personal communication, May 3, 2016), stated that Ethiopia has plentiful natural resources but because Ethiopia was unable to utilize its properly it are being subject to famine, draught and migration. The natural topography of Ethiopia is good for hydropower and so, by filling up a small area with slight evaporation it can produce a lot of energy. In turning these waters into energy, it is the government's belief that it will develop the country. Therefore the government has a big strategy for the country in relation with hydropower. The two main reasons for the focus on

hydroelectric power projects in this country are: cost efficiency and reliable source of energy. It is possible to be able to tell how much power can be generated with the amount of water that is stored but it is hard to predict the amount of power that can be generated with wind and solar powers. One of the informants indicated that this might not be true for other countries; some counties might prefer using coal due to its cost effectiveness whereas other countries like Ethiopia might prefer hydropower for cost effectiveness. There are two things that should be expected once the construction of the Dam is done: reservoir management and operations (Key Informant 1, personal communication, April 26, 2016). Reservoir management is a critical thing where the utilization of water is determined once the water has filled up. On the other hand, the operations are things like turbines and generators which need up keeping from time to time.

There are only minor things left to be done in the Gibe III project and so it has started producing energy and has reached this stage. The Project was able to finish and start working because the problems that were alleged by international advocacy groups were not true (Key Informant 1, personal communication, April 26, 2016). Now, what is left of the project is only about 3.82% which should not be seen as a project not yet completed because if you manage to finalize things up to the operational level then the project does not need to be a 100% complete for it to be considered finished. The project is expected to be fully finished and operational in June 2017.

The Gibe III Dam is the tallest Dam in the world. It is 246 meters high and 200 of it are filled with water and only 46 meters left to fill up. The power generation started on the 10th of October 2015. The impounding started on January 19, 2015. The Dam is good for the country because the filling up of the Dam is taking less time than expected which within 1 year and 4 months has reached 200 meters (Key Informant 1, 2016).

4.2. Implication of the Gibe III Dam for Kenya and Downstream Communities

Throughout Africa there are 59 trans-boundary river basins, which make up 62 percent of the continent's land surface (Rieu-Clarke et al., 2012). In hydropower development, it must be understood that there are international principles which instruct national decision makers to open their hydropower development policies for participation of different interest groups including the project-affected/ local people (Hailemariam, 2011). According to K. Tekleberhan (personal communication, May 3, 2016), in general there are two sides to the development of Ethiopia:

positive thinkers and negative thinkers. The positive thinkers believe that the crisis in the Horn of Africa is due to poverty. They believe that Ethiopia's progress to eradicate poverty will have a positive influence in the region. If Ethiopia is to bring development, it has to use its natural resources and one of these natural resources is water and Ethiopia is the only country in the Horn of Africa with its entire Rivers flowing into neighboring countries and no water flowing to Ethiopia. Since Ethiopia shares trans-boundary water with neighboring countries it has issues with Egypt, Sudan, Kenya and Djibouti with respect to water. Therefore, considering that Ethiopia's neighboring countries will raise questions on trans-boundary water, the principle of Ethiopia is that intervention on natural resources should not affect the natural resources of its neighbor's as much as possible (K. Tekleberhan personal communication, May 3, 2016). The other thing is that should be noted is that no one should restrict or limit the rights of Ethiopia to use its natural resources. With this thinking in mind Ethiopia is moving towards large hydropower projects like the Grand Renaissance Dam and Gibe III Dam. There are also development programs after Gibe III like irrigation.

One can find migrants that fled from Ethiopia to Sudan, Kenya, Saudi Arabia and Djibouti because of poverty. It is not only when they cannot find water that people flee but also because of poverty. And so, fighting poverty also fights negative regional pressure especially between neighboring countries. According to the K. Tekleberhan (personal communication, May 3, 2016), when Ethiopia solves its problems it might be able to solve regional problems along with it. If a certain country develops, there has to be positive spillover which will be beneficial to the region. Ethiopia would have been able to taste the interesting thing that is going on in Europe and Asia if it were able to develop at the same time in Africa. For example, the growth in China is expected to develop South Asia. Even the growth of Japan will have a positive spillover effect on rival countries.

Although Ethiopia's developmental goal is to address its own internal problems, it has a positive influence on the region. The same goes for power and sugar production that is going on in the country. This is the primary reason why roads are being constructed to connect the regions. The fundamental thinking is to design something that can transform and change the region. But the question and the concern is whether Ethiopia's neighbors would understand as much as Ethiopia understands K. Tekleberhan (personal communication, May 3, 2016). According to the Kenyan

Embassy, they share the same thought because they alleged that one of the positive aspects of the Dam is that the development of Ethiopia also helps Kenya to develop. The other question that should be posed is whether most of the projects use joint investment even though they are regional projects, the answer is no. Ethiopia is the one constructing the Gibe III Dam but the Kenyans will buy power and there is a transmission line being built and even though they will benefit from it they are not investing on it. But this does not mean that the Kenyans should not benefit from the project, rather, since there is a power purchase agreement between the two countries, it is indirectly investing on the project by agreeing to buy power from Ethiopia.

According to Key Informant 4 (personal communication, May 17, 2016) there are both positive and negative aspects of the Gibe III project for Kenya. The positive aspect of the project is the power generation whereas the negative aspects are the reduction of water levels in Lake Turkana. Lake Turkana is a UNESCO World Heritage Site being the only desert Lake in Africa. If there is a reduction in water they are likely to create conflict from the pastoral community. On the Ethiopian side there are the Daasanach and the Nyangatom and we go down we are likely to meet with the Pokots and the Turkanas on the Kenyan side. These people are usually pastoralists and they usually have cattle raiding. These people are equipped with small arms and so it might increase an arms conflict between them if there is shortage of water around the area.

Currently the communities and the County government in Kenya are trying to ask the national government to do something more but there has not been any action taken by the government (N. Allibhai personal communication, May 17, 2016). There are a lot of discoveries being made like oil, aquifer, investment on wind farm and that is more of what is going on and there is a lot of focus on that rather than on the Gibe III Dam. According some informants there is nothing that is being done to potentially compensate them or to give them an alternative life.

4.3. Reactions of Kenya to the Dam

When a country does big projects that are controversial there is a lot of pressure from different groups that might make it hard to implement. If these projects are trans-boundary there are interests that have to be taken into consideration. Once these interests have been considered and there have been thorough assessments conducted including environmental and social impacts it will be time to convince the affected state. It is easy to explain and prove scientifically to

governments that the project will not affect them. On the other hand when it comes to the society, they have the wrong information from the media and other advocates which makes it hard to convince them and so it is the duty of their government to work on that.

Key Informant 1 (personal communication, April 26, 2016) confirmed that there was no negative reaction concerning the Gibe III Dam on a governmental Level and that the Ethiopian government has worked on making the people aware for a long time and so the society is supportive of the project. Despite the many advocate groups that indicated that the Dam will have an impact on Lake Turkana because it will reduce the level of water on the Lake and they were opposing the construction of the Dam, the Ethiopian government was able to convince the societies living around the Omo River otherwise. These interest groups were really advocating against the Dam and they were successful in getting the organizations like the World Bank and the AfDB to withdraw the funding for the project. One of the Key Informants from the International Rivers who is an Interim Executive Director, P. Bosshard (personal communication, April 13, 2016) stated that the International Rivers does not oppose the Dam; rather it opposes the fact that there is no comprehensive impact assessment both for the Dam and also for the irrigation. This made the government study the ESIA and get the public to participate even more. The reason for further study of the environmental and social impact assessment was that sometimes even after a thorough study of a project, there are unexpected things that might occur while doing a project and so there had to be further study to convince other groups as well. The public participation for the downstream people was both time consuming and it also took up a lot of resources said the same informant. Key Informant 1 (personal communication, April 26, 2016) stated his belief saying; “I think it is the understanding with Kenya that helped us with this project because we did not harm their aquatic life and even if we did you would have seen it in the media or elsewhere.” In other words, the many advocacy groups have been declaring how the Gibe III project will affect Lake Turkana and everyone living around it but there is no evidence to this day on that claim even after the completion of the Dam. When constructing the Dam, in order to determine the impact of plant regulation on Turkana levels the average hydrologic conditions have been considered (EPPCO, 2010). Therefore, if for some reason the plant is not operational, there is a scheme on some amount of ecological flow being released. Nevertheless most of the people living around Lake Turkana that were interviewed by the advocacy groups

voice their concerns and expressed how scared, angry, afraid and hopeless they are because their whole lives depend on the Lake and if the Lake Level reduces they are scared they would die.

4.4. Benefits of the Gibe III Dam for the Downstream Communities

When doing projects on Trans-boundary water, the rights of those that use the water together should be respected as much as possible. If for example there is a hydro projects like water irrigation or sugar plantation being constructed, the water level will reduce but the water will not reduce in this sense (Key Informant 1, personal communication, April 26, 2016). But when water is impounded the amount of water that is supposed to flow to the lake is regulated. Hence, it will not be like the olden times where the Rive will flow as a flood which will allow them to benefit from flood control. However the controlled flood, in terms of intensity and duration, will be adjusted during operation following the environmental monitoring plan of the downstream area (EPPCO, 2010). An example was also given by the Project Office on the downstream area around Gibe III where the Desanech, Nyangatom, and the rest of the society used to be affected by flood and the water flow is now more regulated therefore they will not be affected by flood. When flood passes the water leaves the land wet and people farm on those lands, and when they farm on that it is called recession farming. But since there is no flood anymore, recession farming cannot take place which is bad for the people living in Ethiopia. Therefore, to mitigate this problem, these people are given big water pumps for small scale irrigation. It was the projects' responsibility to mitigate the problems that arise due to the dam and it is safe to say that it is doing its duty properly. State Minister Kydaki also adds that irrigation pumps were given to the societies so that they use it on the regulated waters which will change their ways of lives as well. If you go to the downstream areas, the pump has an operator because this pump is not a regular pump; it needs a person that is skilled to operate it and what is left is to give them training on how to operate it (Key Informant 1, personal communication, April 26, 2016). There is also a Wereda farmer's office which is believed to be creating more job opportunities for the local communities. And even though the advantage to them is significantly small the Gibe III Office tries to share and minimize the amount of harm they face.

According to many of the Informants, energy being sold to Kenya should be considered as a cooperation tool. For example; the tariff for those countries that use the Omo River is different

from those countries that do not use this River. Due to the cheap power being sold to Kenya, more than getting money from it, it creates a good cooperation between the two countries. But the fact that the power being sold is cheap does not mean that it will affect Ethiopia's economy. Regarding this project, Ethiopia and Kenya have a good relationship because of the power purchase agreement that they concluded. And it is not only with Ethiopia that this relationship is smooth with but also with other countries that are purchasing power from this project. One of the informants also pointed out that there are a lot of ways in which countries can cooperate (e.g. oil) but when other countries benefit from what one country generates then there is somehow strong bond between them.

Before the construction of the Dam people living around the upstream areas used to take their cows and sheep and cross the river when the water was low. But now, after the Dam, due to water impounding the water level gets really high (more than 200 meters). Therefore there was a process of identifying the societies' standard crossing point in every Wereda and assigned boats for every crossing point. The boats that are to be given are 12 where 8 of them have already been given and 4 are remaining which will be given to them soon. They don't use these boats to transport people only but also sheep, goats or anything they want to sell, taking women who are under labor to a hospital and so on. But they cannot transport their cows because they are heavy and the locals have demanded for a solution and even though this is a costly thing, the regional government and the project office are working on it at the moment. The people living on each side of the river have marital relationships or trade relationships and these boats strengthen that relationship. Back in the day when they used to cross by foot there was a possibility that they could be eaten by crocodiles. When the water is impounded, there are so many fishes just because the reservoir was held, which is an incredible effect of the upstream water (Key Informant 1, personal communication, April 26, 2016).

The other positive aspect of the Dam that is being done according to the Gibe III Project Office is that the Regional Weredas are taking unemployed youth and helping them work on fishery work where they are able to sell their fish to Hotels and generate income from that. The Project Office also gave the boat to the Wereda and so they gathered unemployed youth and they gave them to the Project people and they contacted the boat producers and taught them how to operate and maintain the boats. Hence now they have a source of income by using the boat. The Project

Office has also interviewed these people and they have expressed their happiness with how things are being handled. Another thing that is being done for the society to mitigate the negative effects of the Dam is providing them with plants to grow. The reason for this is that the water level has risen and where there used to be plants before there is now water and so to compensate the societies for that the Project Office has given the society plants to grow.

As per the Ethiopian Constitution, everyone has the right to be compensated if their property has been expropriated. In the case of the Gibe III Dam, there are many people that have lost their homes due to the construction of the Dam. According to many of the Key Informants, if there are people that are affected by the water, if their land is expropriated or their house is demolished they are given an appropriate compensation for it. Everything has a compensation standard, starting from the plants on the land to the whole house. This is done in collaboration with the Wereda and experts where everything has a unit rate and is counted and everyone is compensated appropriately. But luckily Gibe III is a steep gorge and even though there are people affected, these people are not a lot. Some of the interviewees also believe that, like Ethiopia, there are effective things being done on the Kenyan side as well.

According to K. Tekleberhan (personal communication, May 3, 2016), the project is actually good for the communities because on the one hand there is the sugar cane plantation and on the other there is an irrigable land for the people and their animals. According to the State Minister for Developing Regions and Pastoralist Development Affairs, K. Gezahegn (personal communication, May 4, 2016), among the many obvious advantages of the Dam for the upstream communities, expansion of fisheries for the communities is one of them because when there is Dam the water will be concentrated in one area. They will also use the power that is going to be generated for electricity, small scale businesses like woodwork, metalwork, garages and the like. It is not just for the pastoralists that this water is regulated for, there is the Turkana Lake on the Kenyan side and the Rudolf Lake on our side and the water is regulated so that the Lake does not dry up and the fish do not go extinct and for there not to be an impact on the environment. In order for there not to be shortage of water for the downstream, people when filling up the Dam there is regulated impounding which is a way of mitigation. When we see the downstream people, they used to be affected by flood and now the flood is regulated. There was a big flood that occurred around 10 years ago and it really affected their lives because it took so many lives

of both people and cattle, homes, destroyed infrastructures and so on. There is also regulated water which is released in time of shortage of water. The irrigation is also there for the downstream people to use. The Dam takes up a lot of space and so the people that live around there are given another land to resettle. They will also be remunerated for the land they cultivated which in turn leads to a more advanced life for them. Therefore, if the Dam is coupled with the advantages mentioned above it will be beneficial to them.

According to the Minister, when it comes to the mechanism, the project and the community jointly discuss on issues so that there is a joint program. The State Administration, the community and the project have a way in which they solve problems including conflict. Empowering the people that live around this area and making them benefit from the project is a critical and a challenging issue now because social transformation is hard otherwise. The overall thinking and definition of people for the Ethiopian government now is: farmers, pastoralists and the poor (K. Tekleberhan, personal communication, May 3, 2016). Empowering these people means teaching them, training them, providing clean water for them, having pregnant women deliver their babies in clinics, fairly distributing money to the region, etc. But for there to be a social transformation there needs to be an attitudinal change. Therefore, there needs to be a lot of work that should be done in order to bring about social transformation. When it comes to the root cause of conflict around this area, most of the problems have been solved especially when it comes to the political problems. This project does not only solve the power shortage but it also sells power to Kenya and other countries which will help Ethiopia with foreign currency.

According to Article 44 (2) of the Constitution of the Federal Democratic of Ethiopia, all persons who have been displaced or whose livelihoods have been adversely affected as a result of State programs have the right to commensurate monetary relocation with adequate State assistance. Almost all of the Informants agree that the people that have been affected by the Dam are being compensated as per their constitutional rights.

When we come to Kenya, the Lake Turkana area is a dry land and the people depend on fishing and livestock. What the Kenyan government is trying to do at the moment is inform the people of alternative means of livelihood that if they cannot engage in fishery and livestock, they can engage in agriculture (Key Informant 4, personal communication, May 17, 2016). But this is a

complex issue because the land in Turkana is a very dry land unlike the Omo area it will be very hard to farm on it.

4.4.1. Roles of International Organizations

There are various International and National Organizations that are involved in the advocacy against the Gibe III Dam Project. The front Runner Organizations that were directly involved in the advocacy of the Gibe III Dam were Friends of Lake Turkana and International Rivers. These groups claim that the construction of the Gibe III Dam will cause significant reduction in the water levels of Lake Turkana which will in turn affect the people living around it. They also claimed that the water quality will reduce and become more saline and so the fish living in the water will die or reduce. Their concern comes from the fact that the people living around there being pastoralists and mainly depend on water and fish for their day to day lives.

There are five projects on the Gibe River and currently there is the Gibe III Dam and the Sugarcane plantation and the two upcoming Projects; the Gibe IV Dam which is also known as Koysha and the Gibe V. Hydroelectric power plants are risky and so careful assessment needs to be taken in conducting them. The construction of the Gibe III Dam was given to Salini without any bid and there was no comprehensive impact assessment taken (P. Bosshard, personal communication, April 13, 2016). Allibhai also stated that there are a few core issues when it comes to the Gibe III project and what the International Rivers is trying to do is to make sure that things are done in a way that is respectful of the environment and human rights.

According to the International Rivers Informants, they do not oppose the construction of Dams in general. And as for the Gibe III Dam, if not planned properly and if there isn't a careful implementation, it is the belief of the International Rivers that it will lead to negative impacts on the environment, ecosystem, geology, people, etc. The Dam also facilitates fish breeding patterns in Lake Turkana in Kenya and so, disrupting the natural flood cycle and flow of the River can have negative impacts on agriculture and on fishery (N. Allibhai, personal communication, May 17, 2016). She added that the other problem is, during the initial filling up of the reservoir less water is going to flow downstream and reach the Lake. Some of the problems that have come up regarding the Gibe III Dam entail the effects on the floods downstream of the Dam. This is because when the Dam is built it is regulating the flood whereas before there would be seasonal

flooding that happens on the bank which has before facilitated agriculture in the Omo Valley. This in turn will have a terrible effect on the fisheries. Also, the Lake is a saline Lake and some people drink from it because it is a desert and it is difficult to find other source of drinking water. These are the reasons why the International Rivers have been pushing for an independent Environmental and Social Impact Assessment to be done. There was an assessment done but it did not take into account the effect of the Dam within Ethiopia, the irrigated plantation and the impacts on Lake Turkana. Hence why the International Rivers is pushing for ESIA so that they know what the impact on the environment is, how biodiversity can be mitigated as much as possible and how the peoples' livelihoods can be minimally affected.

Regarding the Sugarcane Plantation, P.Bosshard (personal communication, April 13, 2016) states that there should be proper planning from the start. It should be known how much water can be available for the people, fisheries, hydropower and irrigation. When water is being removed from the River for irrigation, the reduction of the level of Lake Turkana could be quite extreme. A study shows that the total irrigation water demand for the project irrigation in the Lower Omo Valley could require over 50% of the flow of the Omo River. This is a problem for Lake Turkana because Lake Turkana receives 90% its water from the Omo River which means that the Lake level, according to the predictions of the study, could drop over 20 meters and its current average depth is around 30 meters. It should be noted that there is a long record of large irrigation schemes in Africa and quite a few modern irrigation projects which failed including Ethiopia and people were resettled to become farmers and the irrigation system did not work or the drainage did not work and people lost their previous livelihoods and the new system did not work. Therefore, there needs to be a careful evaluation on what went wrong with the previous systems before doing such fundamental changes in a system which is very fragile and where local people did not manage to survive more or less for many generations (P. Bosshard, personal communication, April 13, 2016).

Although everybody wants healthcare, schools, roads, electricity, if the government listens to what the local people need then it may strengthen their capacity step by step. According to the same informant, when we look at what has happened with many of these Mega Projects they have used a step by step approach, and international experiences are available for Ethiopia to refer to. According to the International Rivers the Omo River is trans-boundary thus there are

certain obligations and expectations. Ethiopia also takes a lot of international aid and so there are already certain expectations when it comes to proper development planning. The Ethiopian government has also undertaken certain obligations on the World Heritage Convention obligations which they have to live up to and so the International Rivers is just trying to use those international obligations which Ethiopia has to stand up for the people who are affected (P. Bosshard, personal communication, April 13, 2016). But unfortunately, according to the interviewees of the International Rivers, the people around the Omo River cannot speak out.

It would have been good to get public participation while the project was underway but it is too late now. Lake Turkana is the world's largest permanent desert Lake and has 3 World Heritage Sites inside it and supports 300,000 Kenyans composed of pastoralists and fishermen. A reduction on the water level of the Lake and the change of flood cycle could have a devastating effect on the fisheries and the livelihoods of the people. If it was not for the irrigated plantations and if it were just the Dam and if studies were done well, it could be possible to try and mimic the natural flood cycle with a methodology called environmental flood (N. Allibhai, personal communication, May 17, 2016).

The other problem is that, the people around Lake Turkana will be affected but there is no talk about compensation or how they are going to manage once their livelihoods are destroyed. These are discussions that need to happen but it gets complicated because it is a cross border issue. Ideally Kenya and Ethiopia can work together with keeping in mind the indigenous people who live around the Omo River and Lake Turkana (N. Allibhai, personal communication, May 17, 2016). There is progress in empowering the people living around the Dam and those that are directly affected by it but that is not enough. Since water is a sensitive issue, nothing to its regard should be taken lightly as it could easily lead to conflict.

There are 2 things that should be considered: climate and energy access. In terms of climate, International Rivers usually tries to encourage alternative means than hydro because of the changing climate especially in Africa where studies have predicted that there will be less rain and more temperature in the future. Given the climate risks, having too much dependence on large hydropower projects, it can be dangerous for that country. Ethiopia is quite dependent on hydropower and is increasing it. That is why International Rivers pushes for diversifying source

of energy. Quite often when you have large hydropower, the electricity that is produced goes into the central grid which then gives power to those connected to the central grid, industry, etc. But the people who do not have access to electricity, especially those in more far out rural areas are not going to get electricity unless an effort is made. So this makes us talk about how we can focus more on people that do not have access to electricity and how they can get it rather than increasing those that have it. For N. Allibhai, personal communication, May 17, 2016, it would be better to use wind or solar energy where people are closer to the source so that they can get electricity access.

4.5. Cooperation and Agreements on the Gibe III Project

The Omo River is a tributary to Lake Turkana and since it is trans-boundary water international agreements are the base of it (Key Informant 1, personal communication, April 26, 2016). Also, to make the interest of both countries smooth and peaceful there have been agreements with the Energy Ministries of both countries. The government of Kenya and Ethiopia came to an understanding that the project will not bring any impact on Lake Turkana. They also realized that they can get energy easily from the Gibe III Dam. Most of the Informants also emphasized on the fact that the project has been doing well without any major conflict erupting between Kenya and Ethiopia.

The power trade that is signed between the two Ministries serves as a cooperation tool for the two countries. In theory, when the Dam is completely finished the power that is expected to be produced from the Gibe III is 1870 MW of which 400 MW is to be sold to Kenya with a cheap price. One of the Key Informants quantified the power to be sold to Kenya is 7 cents and the Kenyans will sell the power to their citizens for more than 20 cents.

The Kenyans had a problem with the construction of the Dam because of the reduction of water on Lake Turkana but the power purchase agreement could be taken as a step forward and can lead to cooperation. According to all the informants that were interviewed there is no formal trans-boundary water agreement between Ethiopia and Kenya. One of the Key Informants listed that there is one agreement, one project and one framework that is being developed that can act like cooperative tools between the two countries with respect to the Gibe III Dam.

Kenya and Ethiopia have signed a power purchase agreement of 400 MW of power from the Gibe III Project. There is also an agreement on the transmission line which is being funded by the AfDB. Two of the interviewees also informed the researcher that there is a project that is funded by the UNEP between Kenya and Ethiopia called sustainable management of Lake Turkana Basin and the first meeting was held in Addis Ababa in 2016 which was between the Kenyan and Ethiopian Ministries for Water and Irrigation and UNEP. This is a big project because it covers both Lake Turkana and the Omo Basin and the pastoralists that live in that area and it also looks in to the environmental management of the basin as well as the watershed management in that particular area. Therefore it is looking at the sustainable development of the entire region.

Key Informant 3 (personal communication, May 17, 2016) stated that if we look at it deeply, both conflict and agreement are relative and it stems from interest. Sometimes these interests might be conflicting and sometimes they might be complementary. The whole point would be on making a middle ground for both parties to accommodate their needs. In the case of Kenya and Ethiopia most things seem to be going smoothly with both countries but it is hard to rule out what the future might hold. But discussions have been going on at various levels, both bilaterally and multilaterally on the management of the Omo River between Ethiopia and Kenya. One informant made a point of how there is a good congeal ties between Ethiopia and Kenya which dates back more than 50 years. This can be taken as a sign that these two countries have a strog bond and can work through many problems. There is a signing of the special status agreement which is an indication of a good task. There is also a good tie of cooperation on security matters between the said countries. According to the Key Informant 4, when it comes to the trans-boundary waters, the discussions are ongoing between the two Ministries of Water of both countries so there has not been any fallout.

Key Informant 4 (personal communication, May 17, 2016) told the researcher that the international organizations that are concerned about the impact of the Dam are the UNESCO and the UNDP. The Key Informant also elaborated that the people that are directly affected by the Dam usually lack education and healthcare facilities and so Civil Societies come to give the people a voice. CSOs usually work to articulate the interest of the people. Organizations like Friends of Lake Turkana and International Rivers wanted to make the people aware of the impact

of this project. These Organizations also inform the government of the impacts of the Dam and they play an advocacy role. The CSOs might seem like they are instigating conflict but they have legitimate concerns and they are allowed to voice it. Therefore it is good to listen to these Organizations because they can actually help with cooperation (Key Informant 4, personal communication, May 17, 2016).

The informants acknowledge that there is concern from the Kenyan side regarding the Dam because the harm it is expected to inflict on the wellbeing of Lake Turkana. According to Key Informant 3, on the Ethiopian side the power will be shared and the development is for everyone so there should not be any concern. Moreover, there is a project plan on Lake Turkana for development with the UNEP which involves both Kenya and Ethiopia. Also stated that there was a workshop with the concerned bodies and they have given the green light.

Cooperation between the two countries depends on the involvement of the people and if things are done in a participatory manner and people are informed what developments are happening how they can benefit or if they are not going to benefit how they can be compensated or what alternative that they have then there is definitely potential for cooperation. She goes on to say that there have been talks between Ethiopia, Kenya and there has been a lot of attempt at cooperation; the transmission line is currently underway and there will be exporting of power from Ethiopia to Kenya which is a form of cooperation that are underway. But the issue we should not forget is that the people who live around the Lake do not have much of a say in these national conversations (N. Allibhai, personal communication, May 17, 2016). She also states that these people are dependent on their cattle and their fish and when those sources of livelihoods are jeopardized then that can actually lead to more resource conflict especially within the area around Lake Turkana and the Omo Valley because people will migrate trying to get towards the water to feed their cattle. If for example their fish are destroyed there will be more water wars because they will try to go to other places to get fish.

Cooperation is inclusive because not only will it help with the development of each cooperating sate but it will also help develop the region. It is undeniable that there was a lot of marching in opposition of the Dam but there were things being done to transform the communities like convincing the people, finding irrigable land and farming on that, training their children and

making them work on the project, and so on, hence the record so far in the cooperation of the community is good. Even if they were reluctant at first, which is natural, they are happy now because it is creating good opportunities for them as well. One of the Key Informants concluded by saying that when coming up with a framework it should be a win-win position so that it achieves what is intended. Thus, cooperation is vital and it should not be wished away.

4.5.1. Challenges during the construction of the Dam

The challenges of the construction of the Dam especially from advocates where they claimed that the downstream societies especially the ones around Lake Turkana will be affected and the water level will decrease significantly. There were challenges especially the pressure from the media and the advocacy groups.

Most of the informants admitted that there were challenges but before getting into any project there are assessments conducted that should involve both Ethiopia and the riparian countries. The assessment is done on the impact on downstream societies so that if there is any conflict of interest between downstream and upstream societies, this problem will try to be solved. Some of the Key Informants have confidence that the environmental impact assessment on the downstream communities is studied thoroughly and so problems with downstream communities will be dealt with.

Due to the advocacy from different groups, this project was not able to get financial aid for the project (For Key Informant 2, personal communication, May 4, 2016). There were promises made from organizations like the World Bank and the African Development Bank and they broke their promises because of the advocacy made by different groups. At this juncture, the Ethiopian government did another environmental impact assessment and produced a document saying that there is not much impact on the downstream. And so the Chinese government funded the electromechanical part but most of the funding comes from the Ethiopian treasury. The Gibe III Project Office also confirmed that the project is done almost entirely without any aid from outside. There is a small amount of funding on the electromechanical part from China which was about 15% (470 million dollars) and the 85% (civil work) is Ethiopia's budget (Key Informant 1, 2016). The Key Informants also indicated that the civil part of the Project is 1.4 billion Euros and

that the Ethiopian government is providing the money on its own. Therefore, according to Key Informant 2, the biggest challenge was about securing financial aid.

When these kinds of big projects are underway there will be impacts and the one doing the project is expected to produce not only impact assessments but also how it would mitigate them. According to the same Informant, after the project started, the government wanted one company (Salini Construction) to take care of all the engineering, procurement and construction but since some financial aid was given by the Chinese government, the electromechanical part was taken by a Chinese company. Since one company was working on one part of the project and another one was working on another part of the project, there was some problem with regards to contract administration. One of the interviewees recognized how it is also believed that the project was delayed due to this problem.

Another challenge that might be faced according to many of the informants is that when doing these types of huge projects there are unforeseeable things in the geology which might force the contractors to change certain designs because of in-consistence with the initial project design. Therefore after getting into the project, Salini Construction was working on the project and studying the design because of the change that might occur due to the landscape.

On the other hand, Key Informant 1 (personal communication, April 26, 2016) particularized the two kinds of oppositions with respect to the project: the downstream societies on the Ethiopian side and the downstream people of Lake Turkana. There were rumors from the media that these two groups will be highly affected by the Dam which was hard to convince them of otherwise. One of the Key Informants stated that it is easy to convince governments because the discussion will be based on principles and it will be scientific. And so it is easier to come to an understanding with the government and start working jointly towards development. Convincing societies on the other hand is not as easy as convincing a government which can be seen as one of the challenges.

If we start from the downstream societies on the Ethiopian side, there is lack of awareness (Key Informant 1, personal communication, April 26, 2016). They think that the River should flow all the time but there is a diversion on this project. The Project Office stated that they have diverted the normal river flow by blocking the main route and making it pass through another tunnel so

that it goes to another tunnel. When the communities see this they think that the government is trying to restrict/stop the water. The communities were led to believe that the government was trying to take away their water. The Gibe III Project Office specified that, when they took the local communities to the construction site with the help of their environmental team they were able to show them that there is no impact. This was done before the impounding because if impounding starts the diversion tunnel will be blocked. Once the diversion tunnel is blocked the water will flow through the dam with an ecological valve. This is water that is released for the society which is regulated. It was said by the Project Office that, for the people whom their water is not coming, there are pumps which work 21,000 per second that are provided to them. One pump has the capacity of working 50 hectares on its own.

According to some of the informants all of these challenges took place within a ten year period. Hence, there were challenges with regards to: convincing the society, convincing them that they will not be affected, providing things that they are used to and so on. The office also stated that, although it is the Kenyan government that does these things, when we look at their side, the challenges are more or less similar. The flood is on the Ethiopian side, and the only effect is on their Lake and even though the water is regulated the water will get to them which is an agreement that is reached with both governments. Therefore, there is not a significant effect of the lake due to the Damming of the River. Even when the water is being impounded some water needs to flow out otherwise downstream societies will die. For example at some point there was an impounding of 100 meter cube per second but the project used to release the 70 m^3 and only use the 30 m^3. The reason for this is that these peoples' lives depend on this water but the Dam only needs it for impounding so we have to be considerate of their livelihoods. The Project Office also elaborated that when summer comes they release the amount of water that is needed and they will have more water because of the rain. Now that the Dam is operational there are two benefits: the Dam is producing more energy and the fact that there is more energy unit means there is more water released. To move one turbine you use water, if for example you move 5 units you will release water that has used 5 units, therefore, they are not deprived of anything.

As per the Gibe III Project Office, there will be irrigation on the downstream area and the upstream society cannot use the water for irrigation because the water is for generating energy. The sugarcane plantation is also downstream, further down than even the affected societies so

they will get the water before it reaches the plantation. According to some informants, the water that goes downstream is not inconsistent with international laws and the people will also not be affected.

Most of the interviewees believe that the way the locals think is very difficult and it cannot be easily changed. One of the interviewees gave an example of how the government used to give aid to the people that were affected by El Nino and the downstream societies of the Omo were one of them but they would not accept the aid. Their reason for their refusal was that they believed that the aid will bring problems with it and so they would rather die than eat the food they were given. Instead, they had asked for pumps so that they can work and at least feed themselves and that is what the project did, they immediately provided the pumps. This is one of the many problems that the Dam faced but as the project went on there were a lot of things that improved.

For the Key Informant of the Kenyan Embassy, if Lake Turkana dries then conflict should be expected. But the conflict is not only going to be from the Kenyan side because if the Lake dries the Turkana people will come to the Ethiopian side because that is where the water is. According to the Kenya Embassy when doing the project the Kenyan people needed to know how much water was to be extracted and how much water is needed for irrigation so that they can be able to monitor the water flows from the project. The Kenyan Embassy also added that even if Kenya buys power from Ethiopia, there is no point in the country buying power if Lake Turkana dries up no one will buy power and so the water should be managed in a sustainable manner that does not affect the people living there. Key Informant 4 (personal communication, May 17, 2016) has concluded that there are various challenges when talking about the Gibe III Dam, some of which are; mistrust, selfishness, lack of consideration of the affected communities, adverse effects of large scale irrigation projects and the role of CSO and NGOs.

4.6. Water Management

On the Ethiopian side the natural resource, which is the Omo River for this purpose, is well treated. The informant also specified that, for the downstream society the Wereda is there for the people to utilize the water properly. On the other hand the upstream societies use the resources of the water (like fishing) with the regulation of the Wereda Administrators. According to the same

informant, the water in the upstream is the projects and they cannot take it because it will harm the impounding which is a practiced rule worldwide. If the water is below the minimum operational level elevation the operation stops.

According to one of the informants, the natural course of the water has not changed so the people can utilize the water the same way they used to before. The people are only resettled to avoid dangers due to the construction. If you go further down, there are people living in the downstream area and they still use the water they use before the Dam was built because it has not been diverted and is flowing in its natural state. According to Key Informant 2 (personal communication, May 4, 2016), had there been a different flow from its natural state then there would have been a consideration of effective utilization of natural resources but since the natural flow has not been interrupted and both the quality and quantity of the water is the same there is no need for that. One Key Informant also added that the social services that are being provided for the communities are not on natural resource management but on other services. They started off by bringing the locals together and convincing them that this Dam is not harmful to them through discussions, teachings and trainings. Schools, clinics, roads and clean water are built for the community because of the project.

The people around the Dam fight over many things, among which are; grazing land, drinking water for their cattle, etc. in which the Wereda deals with these issues. The Project Office tries to figure out what the impact of the project is and how it can allow the people to have equal utilization of water and how it can have mitigation measures for those societies that fight in the downstream. Problems like cross boarder raiding of cattle are dealt on a more political level and not within the scope of the project.

4.7. Conflict, Prevention, Management and Resolution

According to the Director General of the Conflict Prevention and Resolution Directorate General, S. Melese (personal communication, May 6, 2016), five years ago, the Conflict Prevention and Resolution Directorate General Office, has designed a strategy that is focused on conflict prevention and has started with the implementation. He elaborated that there are 4 pillars in this strategy: culture of peace building, early warning and rapid response system, conflict management, and conflict resolution. The office's approach is preventive which means it focuses

on culture of peace building and early warning and rapid response systems. In early warning and rapid response systems, there were session rooms in place. The Director General also stated that they subsequently separated conflict prone areas in Weredas and Kebeles then there were field monitors that were deployed which gave trainings. After that they formed a system that indicates conflict every day from the Kebeles to the Federal levels. According to this system, conflict indicators information is gathered, analyze and then sent to decision making bodies for a fast response. The information gathered from Federal States on a daily basis helps them prevent and stop potential conflicts. The other thing that the Director General emphasized on was that the office has chosen conflict prone areas and has started building situation rooms. The third thing that was mentioned was doing trend analysis which is more of a traditional system. He specified that they cannot say that it follows the analysis trend completely. What they manly do is try and see the trend of every area in a traditional way. The fourth package that was pointed out was training; which is based on the 4 pillars which have modules and continuous trainings are given on that. This can even be part of the package of culture of peace building. According to him, although this cannot be seen as an early warning system, peace architecture is insinuated in the culture of peace building in conflict prone areas. This is believed to be helpful to the conflict prevention work. The approach is that, be it on the early warning or the culture of peace building, it promotes participatory approach.

The Director General added that there is the use of media to create awareness for the people. They have a radio program which is called Selam and has an air time of 20 minutes per week and it is used to promote peace and teach the communities. Since this is a Federal government there are some restrictions on the Federal States and within these restrictions, if a sense of partnership is not created conflict prevention and early warning will not be effective. So he suggested that there should be shared strategies, sharing of experiences and the like for them to work together. There have also been achievements on some areas including the Afar and Amhara, Oromia and Southern Nations and so on. As for the conflict resolution there have been a lot of successful resolutions by implementing the four pillars.

In general if we look at the early warning and rapid response there are various challenges: scale, attitude problems and system perspectives (M. Sisay, personal communication, May 6, 2016). When talking about scale, the early warning and rapid response system requires the skill of

collecting information, skill of analysis and skill of raid response which there is lack of. The second challenge is on attitude, which shows that there is sometimes rigidity of people in implementing the systems that are put forward to them. The fourth challenge is the fact that guidelines are made with limited knowledge and it is not a system that took international experiences and is coupled with technology. According to the Director General, their rapid response mechanism is very poor. It responds after the conflict has taken place and does not forecast in advance. Furthermore, it is not effective in following the conflict dynamics and analyzing it and implementing the conflict response mechanism. A good example of this could be the massacre that occurred in Gambella recently (M. Sisay, personal communication, May 6, 2016).

4.7.1. Conflict due to the Gibe III Dam

In general according to one of the informants the people around South Omo do not have much conflict but from some observation made they used to have a vengeful mentality. For example if a person from their tribe is run over by a car they block the whole road and they will not let people pass which leads to inconvenience. According to Key Informant 8(personal communication, May 18, 2016), there is no conflict between Ethiopia and Kenya in relation to the Omo River even with respect to the Gibe III project there has not been any conflict by any means.

Since the area around the Dam is a border area both the communities are pastoralists and there are conflicts that arise due to this reason. These pastoralists have harmful traditional practices and backward thinking and they engage in raiding cattle from one another which flares up conflict (Key Informant 8, personal communication, May 18, 2016). Another thing that was added by an informant was that the water in the Omo area is saline but there are also islands that are not saline and the islands have a high production of fish. In these areas where the fishes are abundant, there is a high level of theft on boats. On the Ethiopian side the Desanech have a lot of fish production and they have many boats. On the Kenyan side, the people of Lake Turkana might come and steal boats which this leads to conflict. The other thing these people fight over is the natural resources. Pastoralists are forced to move around and find grazing land for their cattle when the weather changes or when the grass is dry. This could cause conflict as they would be

using someone else's land for grazing. When these kinds of problems arise, the people are gathered and there are also joint border commissioners between Ethiopia and Kenya. These commissioners try to solve problems arising out of the two groups. Key Informant 8 said that they generally try to prevent the problems that might arise but if it does happen then there will be the reinstatement of the communities'.

A little bit of Lake Turkana is on the Ethiopian side and when the Lake recedes for whatever reason the Nyangatom and the Daasanach go to the Kenyan side looking for grazing land and that is when conflict erupts. According to Key Informant 4, this conflict has been going on even before the Dam or irrigation and so even if it might aggravate the conflict, the Dam is not the main reason for the conflict between the pastoralists. On the other hand Key Informant 2 states that the way to know whether there might be conflict or not is through some sort of study like the EIA. And that study shows that there will not be much of a negative consequence. When constructing a Dam, there will be resettlement and so there are things to consider like the interest of the communities which is one of the early warning signals. There is also the relocation of those people settled around the Dam because it is a dangerous area for the people to live in. The other thing to consider is whether or not the people living around the Dam have been appropriately resettled. The third thing to ponder up on is whether the communities living around that area have been given a chance to participate in the project or even on innovative works or anything that is related with the project (M. Sisay, personal communication, May 6, 2016), 2016).

The Gibe III Project Office addresses problems arising out of the Dam depending on the situation. If the problem is one that is created by the project then there are two things to consider: expected and unexpected problems. For the expected problems the project has put forth a mitigation method. But for those problems that are conditional and unexpected, the only body that can solve this problem is the government. Once the government has approved the project, all those things included in the assessment are mitigated by the Project Office with things like; compensation for resettlement, for downstream societies to not be affected by the water, for upstream societies to not lose crossing points and so on. If they are things that are included in the study, it falls on the project construction and on the office to rectify the problems. These are problems that occur because of the project that are stated in the project feasibility study. But if

there are problems that occur due to the project but is unexpected then a government's involvement is needed to solve the problems.

On the Kenyan side, N. Allibhai (personal communication, May 17, 2016) explained that there are conflict management attempts in the area. There are a lot of NGOs in the area that try and do conflict management and they work with the County government as well and that a lot of it is addressing current conflict and not how the conflict is going to increase once the resource they depend on decreases. There is a lot of work on conflict management and peace building, but that does not mean that it works because there is a lot of resource conflict going on.

4.8. Lessons Learned from Gibe I and II

According to the Gibe III Project Office, one of the lessons learned is with respect to those directly related to the project construction. The Project submits lesson learned (e.g. construction, design, environmental mitigation, etc.) from every project to the main office. Most of the lessons learned from Gibe I and II are on the claim of construction between the employer and the contractor. Consequently, lessons are learned from the past and mistakes are corrected for Gibe III and the project office has also learned from Gibe III for the next projects. According to the Project Office, there are compilations of the lessons learned from the three projects and have submitted the report by saying that during feasibility study or on the contract period these things should not be repeated on future projects. These reports are submitted to their respective offices. Since there are 5 projects on the Gibe there has to be improvements on each and every project. As for some of the informants, although this should not be seen as a problem, if you look at the number of people that were displaced due to the Gibe I and II projects, it is higher than the Gibe III. These people were duly compensated and even the company has built a house for them where the Wereda has given them land.

The Gibe III Dam is constructed by the same contractor as the Gibe I and II and it tries to minimize cost by applying better technologies, by building capacity, and so on are being done. Thus, there are a lot of lessons learned from the previous projects in order not to make the same mistakes especially from a technical perspective. For example, there was a slight problem during the construction of the Gibe II and it was taken care of immediately and this was a lesson learned

for Gibe III so as not to repeat the same mistakes (Key Informant 2, personal communication, May 4, 2016).

On the Kenyan side, Key Informant 4 stated that when Gibe I and II were being constructed there was little awareness on the Kenyan side and now the project is almost finished the Gibe III and there is talks of IV and V and the irrigation project. Given that the water is a trans-boundary resource, Kenya will be affected, hence why we are now talking about cooperation and management of the Omo River.

CHAPTER FIVE

5. Conclusion and Policy Implication

This chapter presents the conclusion and policy implication part of the study. The researcher has examined in detail the cooperation and effective utilization of water with respect to the Gibe III Dam between Ethiopia and Kenya.

5.1. Conclusion

Water is a vital resource for human survival, livelihoods and a number of economic productions. When people try to allocate water, tensions might be created between them if the water resources are not abundant. If countries share river basins, in the effort of trying to allocate the shared water, they might hinder sustainable development which can lead to poverty, migration and social instability. A peaceful cooperation between the societies can be created through the need for sharing the water in question.

Apart from the peace and security motivation, regional development and aspiration for common growth also influences the drives for cooperation and effective utilization of water in Africa. The rational for this pursuit is because good relationship with neighboring countries can have a great impact on regional integration and peaceful coexistence between the countries. While it has a lot more to do in the department of regional integration, there is still hope because there is effort either directly or indirectly.

In order to bring about development, natural resources must be utilized properly. Moving water has been used by people throughout history and there have been conflicts over it since it crosses borders. In recent years, trans-boundary waters are being used for developmental purposes which allow countries to enter into agreements with one another in order to utilize the water properly and have cooperation. One of the developmental projects that are being done on trans-boundary water resources is building hydroelectric power projects. But unless a country is blessed with rich water resources then it cannot produce hydroelectric power. Considering the ESIA, hydropower is safer than most of the power generation methods used throughout the world. In Ethiopia the power generation method is moving towards hydroelectricity recently because of the many advantages that it has.

The Omo River and Lake Turkana being very hot places are prone to climate change and environmental degradation. Lake Turkana gets 90% of its water from the Omo River. There is also the growing population which will increase the demand for water in the region. On top of all that, since the water of the Omo River has been dammed, it is necessary for the two countries to have cooperative agreements in order to manage the water effectively so as for it not to be a source of conflict.

Since its inception, the Gibe III has been a controversial topic and has faced a lot of criticisms from both international and national advocacy groups. Due to the advocacy made by these groups, the Gibe III Dam was not able to secure the loans that it was promised by different organizations including the World Bank and AfDB. One of the primary reasons for the advocacy was that there is no timely ESIA done either by the Ethiopian government or an independent body. There is also a sugarcane plantation that is underway and is also facing great criticism from around the international advocacy groups. Another controversy on the project is the public consultation which the international communities' claim that it has not been done and the Ethiopian government denies the allegation.

In general the discussion of this thesis is based on how the Gibe III Project can serve as a cooperation tool and how to effectively utilize water around the Omo Basin. Although this was briefly discussed in the literature review, it was more specifically approached using primary data sources. To accomplish the research objectives, primary data was collected from government officials of both Ethiopian and Kenya and also international advocacy groups.

Due to the quantity of water that Ethiopia has, it has shifted its focus on generating energy from other means to hydroelectricity in order to utilize the natural resources effectively. This means of power generation is also cheaper and has a low cost of running. It is also a reliable a source of energy because the amount of water that is stored determines how much energy will be produced. While respecting the natural resources of the neighboring countries, Ethiopia should be able to use its water resources in light with the affected peoples' needs. When a country develops, it is most likely that the neighboring countries will also have spillover effects. Although there is a lot to be done to help the communities get back on their feet on the Ethiopian

side, some sources suggest that there is not much being done from the Kenyan side because there has not actually been any effect due to the Dam on Turkana.

Although there are some effects that can come about due to the Dam, the downstream communities have also benefited from it. There is the reduction of flood, pumps are provided for the communities for small scale irrigation, boats are provided for them to cross the river, infrastructures have been built, job opportunities are created and the unemployed youth are being given training on certain things in order to support themselves.

The roles of international organizations in matters like this are creating awareness for the people that are affected or might be potentially affected. In the case of the Gibe III Project, there have been a lot of involvement from international groups and organizations, some of which were UNEP, UNDP, International Rivers, Friends of Lake Turkana and many more. These groups have tried to shed light on the impact of the project on Lake Turkana and the downstream communities. They argue that there has not been a thorough ESIA done by the Ethiopian government.

According to this research, even though there is a power purchase agreement and a project on sustainable development of Lake Turkana and its river basins there is no trans-boundary water agreement in place between Ethiopia and Kenya. This project is big and looks at the sustainable development of the entire region because it covers Lake Turkana, the Omo Basin, the pastoralists that live in that area and the environmental and watershed management of the basin. There is a thin line between conflict and cooperation as both of them depend on how a problem is handled. The Gibe III Dam reflects the good relationship that exists between Ethiopia and Kenya as there are no trans-boundary water agreements on the project and there is still peaceful coexistence. Despite the fear of the people of Lake Turkana, the Kenyan government believes that the Gibe III Project is helpful to them as well because of the power they can get. On the other hand, there is no trans-boundary water management agreement between the two countries at the moment but the UNEP Project is expected to help with these concerns. Nonetheless the Wereda Administration regulates the water used by the upstream societies.

In massive projects like this, there are challenges that should be expected. Because of the fact that there was not a comprehensive ESIA conducted the promised funding had to come to an end

and Ethiopia had to fund the whole project with the exception of the electromechanical part which was funded by the Chinese government. Convincing the society that the effect of the Dam can be mitigated was another big issue faced by the Ethiopian government. Although conflict has been expected between the pastoralists of both countries, there has not been any conflict due to the Gibe III Project. Of course these people have been fighting over natural resources for various years but the project is not the reason for their conflict. On the other hand though, it should be feared that the Dam might aggravate the already tensioned societies if there is no framework in place to effectively utilize the water resources of the Omo River.

5.2. Policy Implication

The Omo River is a source of water for many and should not be misused since it will affect the communities living around it. As the Dam has some effects both on Lake Turkana and the downstream communities, there is a need for cooperation and a sound management of the water in question so that it benefits both countries. Through this the countries can strengthen their conflict prevention mechanisms and enhance their cooperation. In order to bring about cooperation and effective water management, the countries should:

- Develop cooperative tools that are supportive, strong and are adaptable to changing situations for the management of shared resources on the Omo River.

- Realize that there needs to be exchange of updated information and data related to the status and the condition of the water resource, consultation of planned measures and cooperation in case of emergency.

- Consult the public that are directly affected by the Dam in order to stop potential conflict between the pastoralist groups that share the water.

- Empower the people that are affected by the Dam so that they can have better life styles than they used to before.

- Develop agreements on trans-boundary water resources in order to create a peaceful environment that would be conducive for cooperation amongst the countries which could be vital for equitable utilization of the water and the protection of the resources.

- Establish a basin wide commission which allows them to realize the cooperation and effective utilization of the Omo River.

- Implement the principles under the section on Trans-boundary Water Resources in the Policy of the FDRE Ministry of Water Resources, Water Resources Management Policy (1999).

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Appendices

Annex I: List of key informants

No.	Name	Position	Organization	Date of interview	Comment
1.	Key Informant 1	-	Gibe III Hydroelectric Project Office	April 26, 2016	Face to face interview
2.	Key Informant 2	-	Ministry of Water, Irrigation and Energy	May 4, 2016	Face to face interview
3.	Key Informant 3	-	Ministry of Water, Irrigation and Energy	May 17, 2016	Face to face interview
4.	Key Informant 4	-	Embassy of the Republic of Kenya	May 17, 2016	Face to face interview
5.	Ato Kassa Tekleberhan	Minister	Ministry of Federal and Pastoralist Development Affairs	May 3, 2016	Face to face interview
6.	Ato Kaydaki Gezahegn	State Minister for Developing Regions and Pastoralist Development Affairs	Ministry of Federal and Pastoralist Development Affairs	May 4, 2016	Face to face interview
7.	Ato Sisay Melesse	Director General	Ministry of Federal and Pastoralist Development Affairs	May 6, 2016	Face to face interview
8.	Key Informant 8	-	Ministry of Federal and Pastoralist Development Affairs	May 18, 2016	Face to face interview
9.	Peter Bosshard (PhD)	Interim Executive Director	International Rivers	April 13, 2016	Skype Interview
10.	Narissa Allibhai	East Africa Program Coordinator	International Rivers	May 17, 2016	Skype Interview

Annex II: Guiding Questions for the Kenyan Embassy

1. What is the implication of the GG III project for Kenya?
2. Are there any cooperative tools/frameworks between Ethiopia and Kenya?
3. How is the smooth relation/cooperation between Kenya and Ethiopia shown?
    a. What is the cooperation like?
4. What is the cooperation between Ethiopia like in general and with trans-boundary water in particular?
    a. Bilateral cooperation
5. Is there an agreement between the water ministries of Ethiopia and Kenya on joint management of natural resources in Lake Turkana and its river basin [Omo] (River Basin Agreement)?
    a. What are their roles?
6. What roles do international and regional institutions play to the prospect of cooperation over the GG III project?
7. What are the lessons learnt from the GGI and GGII projects with regards to cooperation and effective utilization of natural resources (between Ethiopia and Kenya) that has helped for GGIII?
8. What are the challenges faced in order to bring about cooperation between the two countries?
9. Are there any agreements on management and development of trans-boundary water resources of the Omo River?
10. Is there a monitoring Mechanism for Ethiopia and Kenya with respect to the water flow?

a. Perceived impact

11. What is being done to establish a sound water management for the community/area?

    a. What are the water conflict mechanisms/tools in place?

12. What is being done to empower the communities living around Lake Turkana to cope with the changes that take place because of the Dam?

Annex II: Guiding Questions for Ethiopian Officials

1. Are there any agreement/frameworks between Ethiopia and Kenya?
    a. Bilateral cooperation in general and trans-boundary cooperation in particular?
2. How does GG III lead to cooperation between Ethiopia and Kenya?
3. What efforts are being taken in order for this project to become a source of cooperation?
4. Why is Ethiopia focusing on large scale hydropower energy?
5. What are the challenges faced by Ethiopia when constructing the GGIII?
6. Who is funding the project?
7. What are the challenges faced in order to bring about cooperation between the two countries?
8. Was there any negative reaction from the Kenyan side about this project?
    a. If yes, how was it handled?
    b. Were there any solutions?
9. When conducting the ESIA, what were the main elements that were taken into account by the evaluation team?
10. What is being done to mitigate the negative effects of the GGIII project?
11. Are there any agreements on management and development of trans-boundary water resources of the Omo River?
12. Is there an agreement between the water ministries of Ethiopia and Kenya on joint management of natural resources in Lake Turkana and its river basin [Omo]?

13. What are the lessons learnt from the GGI and GGII projects with regards to cooperation and effective utilization of natural resources (between Ethiopia and Kenya) that has helped for GGIII?

14. Is the Ethiopian government taking any precautionary actions for the community that is dependent on River Omo?

    a. If yes, what measures are being taken?

Declaration

I the undersigned, declare that this thesis is my original work and has not been presented for a degree at any other University, and that all sources of material used for the thesis have been duly acknowledged.

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Mahlet Fitwi Tekle

June, 2016

This thesis is submitted for examination with my approval as an advisor of the candidate

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Dr. Kidane Kiros

June, 2016