

***ETHIOPIAN ELECTRIC POWER CORPORATION***  
***Gibe III Hydroelectric Project***



**Reaction to Issues Raised by  
‘South China Morning Post’  
Concerning the Gibe III HEP**

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## Reaction to Issues Raised by ‘South China Morning Post’ about the Gibe III Project

### 1. Introduction

Ethiopia has a huge potential for hydropower development. Its generation capacity is estimated about 45,000 MW. However, so far, the utilization of this potential is limited to 2,000 MW (less 4.5 %). Despite the availability of such huge hydropower potential, currently access to electricity in Ethiopia is about 35% and only 5,189 towns and villages out of 7,000 are electrified. Most of the populations in the country live in poverty and energy insecurity. Use of traditional fuels such as fire wood still continues aggravating the soil erosion and forest destruction.

In Ethiopia the average per-capita energy consumption is about 36 kWh while the average minimum level of consumption per- capita for reasonable quality of life is about 500 kWh. Per-capita consumption of 500kWh corresponds to an annual electricity consumption of 46,344 GWh based on current population.

As effective development and management of hydropower is central to the quest for sustainable development and meaningful economic growth to the country’s industrial and agricultural development and to improve the above mentioned situations, the Government of Ethiopia has given due attention and commitment to the power sector and has committed itself to develop the electric power generating capacity of the country through harnessing the huge water resources potential available in the country.

Accordingly, the Ethiopian Electric Power Corporation (EEPCo) has embarked in energy production through construction of huge hydropower plants. One of these plants is the Gibe III hydroelectric power plant with an installed capacity of 1870 MW and an annual energy production of 6,500 GWh. This additional energy ensures the satisfaction of the ever increasing domestic demand with reliable supply as well as supporting the country’s Universal Electrification Access Program. 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.

Moreover, the government has launched a Universal Electricity Access Program (UEAP) that is being implemented by EEPCo with the view of enhancing the electricity access to 50% within 5

years. This Electricity Access Program has to be supported by generation projects such as the Gibe III hydroelectric project.

In light of the present world energy crisis, interconnection of the regional electric energy networks is the best alternative to displace expensive thermal generation in the regional as well as the international power markets.

The project will have economical, social, and environmental advantage for the country in particular and for eastern Africa in general. It contributes a lot in meeting the country's demand for electrical energy which is an essential part for economic development. This allows the country not only to reduce expenses (in foreign currency) for fuels but also has environmental benefits. Furthermore, the surplus of energy produced can be exported to the neighboring countries benefiting the eastern African countries.

For this reason, Ethiopia has devised a strategy for accelerating cross-border electricity trading with the neighbouring countries to spur regional economic growth through developments of the untapped, environmentally friendly; hydro resources for electricity.

However, some environmentalists and lobbyist groups argue against the project in the name of environment. They continuously champion the idea of impeding the project as they presuppose it will cause for food insecurity, chronic hunger, poor health food aid dependence, severe conflicts among the indigenous tribes throughout the downstream of the project.

Nevertheless, the arguments against the project are not supported by substantial facts. EEPCo has conducted series of Environmental and Social Impact Assessments (ESIA) prior to embarking to the implementation of the project by recruiting international independent experts. The comprehensive assessments, appreciated by all financiers and stakeholders, indicate that the possible impacts are very minimal and become insignificant when compared to the massive and actual benefits of the project. In addition, the World Bank and the African Development Bank (AfDB) experts said in an exclusive interview with the Gibe III HEP Website (<http://www.gibe3.com.et>) that the Gibe III hydroelectric project is the best option in the power sector developments, and would boost the economic and social integrations among the Eastern African countries.

The assessments have been conducted on the basis of the requirements and guidelines of the Environmental Protection Authority (EPA) of Ethiopia, and the various International Standards and policies. The documents are:

- I. Environmental & Social Impact Assessment;
- II. ESIA Additional Study on Downstream Impact;
- III. Public Consultation & Disclosure Plan;
- IV. Resettlement Action Plan;
- V. Environmental Management Plan;
- VI. ESIA & RAP for Transmission Lines; and
- VII. Archaeological Studies

The ESIA documents have also been reviewed by Environmentalists, Sociologists, and other pertinent professionals from the EPA, JP Morgan, AfDB, USAID and the World Bank. Approval has been obtained from the Environmental Protection Authority and the Environmental Monitoring Unit of EEPCo.

For that matter, the executive summaries of the documents had been posted on AfDB's website for the mandatory 120-days public disclosure. Currently, the final versions of the documents are accessible from EEPCo's and Gibe III HEP website([www.eepco.gov.et](http://www.eepco.gov.et) and <http://www.gibe3.com.et>), respectively.

In addition, the Environmental and Social Independent Review (ESIR) Consultant of EIB (SOGREAH) generally concludes that the Gibe III project is a major opportunity to initiate the economic development of the Lower Omo, one of the least developed region of Ethiopia. It also recommends that any financial support to the Gibe III HEP is closely linked to the simultaneous socio-economic development of the Lower Omo region and maximizes the benefits from the river flow regulation. The ESIR Consultant clearly identified some of the issues which are strongly exaggerated, and not supported by any tangible scientific evidence.

## 2. Project Benefits

Some of the major benefits of the Gibe III Hydroelectric Project are the following:

### 2.1 General Benefits

- More energy production for local consumption / Investment
- Improvement of living standards for the surrounding population
  - Small Scale Irrigation Schemes (Solar, Diesel...)
  - Modern fishing technology
  - Provision of Infrastructure like water supply, electricity, roads to the surrounding areas.
- The Project also foresees nationwide Job opportunities during the construction phase for more than 6,000 people with reasonable share go to the local area inhabitants. It creates about 430 million Euro Equivalent (about 6 billion Birr) market for local businesses of manufacturing, Finance, Transport, Hotels and other Services.
- **Benefits to Women**
  - As women are culturally regarded as “responsible” for household energy consumption, they have to travel long distances to collect fire wood. This could be changed by provision of electricity to the rural area.
  - Both women and men will benefit from the employment opportunities that will be created from convenient and safe access road facility.
  - More women will be engaged in income-generating activities, by running shops, restaurants, bars and selling local products to construction camp workers.

### 2.2 Benefit for the Downstream Area

#### **Flow Regulation (Flood Protection):**

The Gibe III Dam is believed to positively contribute to the downstream area. Some of the envisaged benefits are summarized as follows:

- Flood regulation (avoidance of un-regulated catastrophic events). The presence of Gibe III Dam and reservoir will provide flood protection to the downstream flood prone areas.

- The 2006 floods have resulted in the death of hundreds of people and thousands of animals and displacement of more than 15,000 populations in the Dasenech area.
- Huge resources were required to rehabilitate the Health, Education, Shelter, Water & Sanitation, Agriculture, Livestock, Fishing, Roads, and etc facilities after the incidence.
- Reliable and timely water supply for the recession cultivation (prevention of wash-away of cultivations due to sudden and irregular floods)
- Reduction of evaporation losses in the flood plains
- Sustainable flow and positive hydrological balance to Lake Turkana which is characterized by high rate of fluctuations and level reduction at an alarming rate.
- Reduction of extended drought periods. The presence of the Dam shall allow continuous and regulated flow to the downstream river system.
- Long term sustainable development schemes that can positively change the lives of the downstream population are envisaged as part of the Management Plan.
- The presence of the Dam shall allow continuous and regulated flow to the downstream river system.

### **Wet-seasoned (Artificial) flooding**

EEPCo responsibly understands that the Omo River is the life blood of particularly the downstream communities. The flooding is required to maintain the overall productivity, biological activities, and related biodiversity values by allowing annual regulated submersion of adequate portion of Lower Omo basin. It will also guaranty timely discharge of the flows for the agriculture, livestock and fishery production.

According to the ESIA document, the controlled flood release is foreseen from the reservoir during the month of September or end of August to coincide with the peak flows from the residual basin.

For that matter, installation of flow variation acoustic warning system: “alert and danger” posts and acoustic signals shall be provided downstream of the dam to alert/inform about abrupt release of waters to the downstream communities.

### 2.3 Regional Benefits

- 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 CO<sub>2</sub> emissions by thermal or other types of generation plants. (About 4.5 million t/y of CO<sub>2</sub> emission).

### 3. Public Consultation

The Project has conducted a series of public consultation in 2006, 2007 and 2008 in which around 2,000 community members and local officials were consulted.

Also, as part of consecutive duties, the project's Environmental and Social Monitoring and Management Team has also carried out the same campaigns by translating the Executive Summaries of ESIA documents for the upstream (from December 2009-Janauary 2010) and downstream (from August 6 – August 15, 2009 and from February 20 - March 23, 2010) communities in their own respective local languages. In this case, around four thousand community members and local officials have participated and expressed their views and concerns during the consultations.

The whole events of the consultation have been documented with audio-visuals and copies will be delivered to wereda administrators of the respective communities.



**Fig. 1- Consultation held with the Dawro Zone Communities (January, 2010)**

Particularly, when the Environmental and Social Monitoring & Management Team of Gibe III HEP carried out the public consultations, disclosure and extensive discussions with the downstream communities from February 20 - March 23, 2010, they said that they are much satisfied with the mitigation measures and the proposed plans of the project.



**Fig. 2- Community members have strongly aspired for the developments like irrigation activities in their own village (Feb, 2010)**

The Gibe III HEP also opened additional Environmental and Social Impact Management and Mitigation Team branch office at Jinka town and hired four individuals from the major communities in the downstream. The office is conducting a series of public consultations and works closely with the communities by creating public awareness in relation to the Omo River and the construction of the Gibe III HEP. This office is also gathering some information relevant to the office from the PAPs. Generally the office is working as bridge between the project and the agro-pastoral communities at the downstream of the project.

#### **4. Effects on Lake Turkana**

The other claim that frequently forwarded by the coalition of campaign groups is that the Project has not conducted adequate studies on Lake Turkana and they assert that the dam will reduce the Omo River's flow into the Lake, causing the Lake to drop up to 12 meters. In addition, the group also argues the reduction in the inflow to the Lake will critically alter the ecosystem, affecting 300,000 people.

If anyone who could read the ESIA Reports and further assesses and consult concerned bodies on the issue, he could have a clear understanding of what is going on the Project regarding the Lake Turkana.

To this end, the allegation stands on the dune of the sand that any technical person couldn't estimate and pronounce that the Gibe III's Dam by itself could store that amount of water which will drop the Lake to 12 meters.

In fact, if all the inflow to the Gibe III dam is stored in the reservoir for one year without any release, the total volume would be 14.4 billion m<sup>3</sup> and the consequent reduction of the Lake Turkana's water level would be in the range of 1.5 meter. This has been confirmed by the additional ESIA gap analysis commissioned by the European Investment Bank (EIB), so that such issue could be addressed and settled once for all.

Regarding the Lake Turkana inflow reduction, an additional hydrological assessment has been conducted by an Independent Consultant (Dr. Sean Avery) hired by African Development Bank Group. The preliminary result of the assessment shows that the Lake level is fluctuating up to 1.5 meter prior to the materialization of Gibe III Dam and this is due to the fluctuation in the inflow during dry and wet seasons. The maximum fluctuation on the Lake Turkana water level would be limited to 0.6 m after the construction of the Gibe III Dam. Consequently, the lake will have more or less uniform water level throughout the year.

The other study undertaken independently by Studio Peitrageli shows that the Lake Turkana water level has dropped constantly during the last decades, this drop was significant between 1972 and 1988 during which the water level dropped about 4 meters. This indicates that there is a long term change in the watershed and rainfall pattern of the Lake Turkana catchment.

This study has analyzed in detail the effects on the Lake Turkana water level during the first impounding of Gibe III reservoir and impact during plant operation. The assessments revealed that the emergence of Gibe III reservoir with its planned wet season artificial flooding would have a positive impact on controlling the fluctuation of the lake water level both on dry years when only 13.6 billion m<sup>3</sup> of water flow in to the Gibe III reservoir and on average condition on which more water inflows to the reservoir.

The results of the assessments show that on average conditions, after construction of the Gibe III, the lake will only have 0.25 m reduction on the water level. This is well illustrated in the figure below.

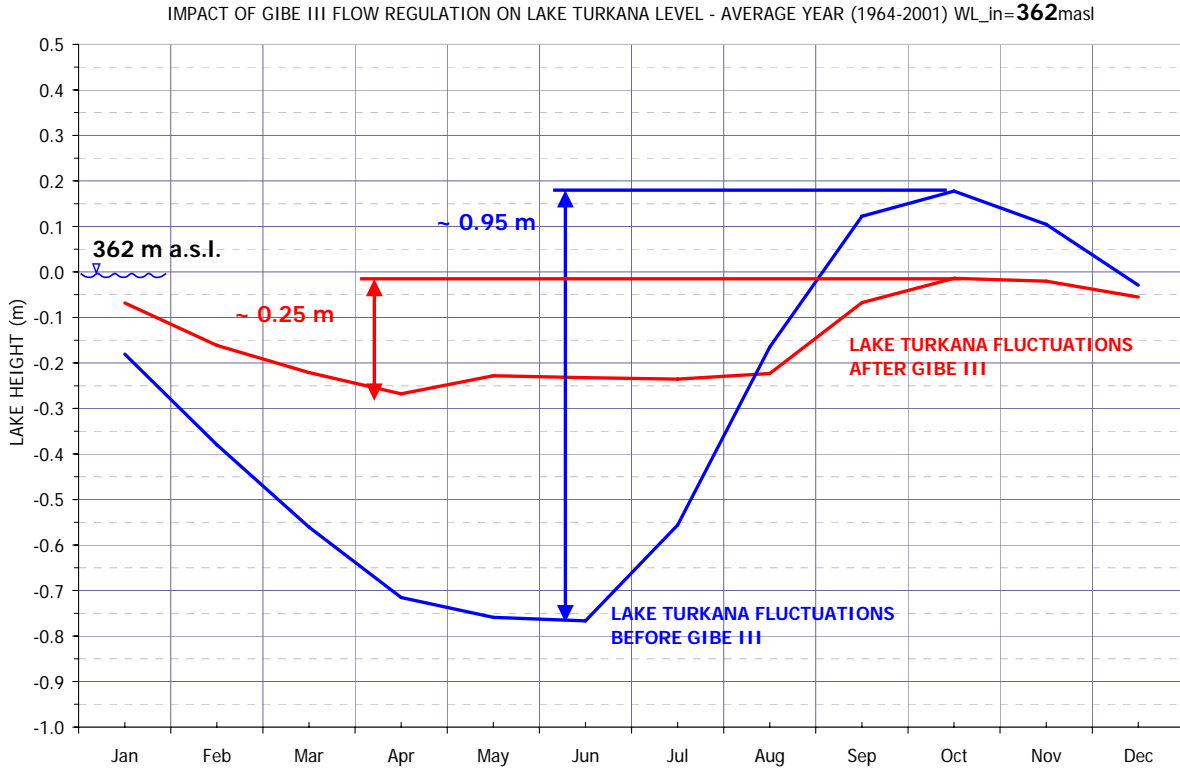


Fig.3- Impact of Gibe III flow regulation on Lake Turkana level- Average Year(1964-2001)

Gibe III flow regulation will reduce the Turkana level fluctuation from about 1.0 m to 0.3 m. While in the case of a very dry year during which only 13.6 billion m<sup>3</sup> of water flow in to the Gibe III reservoir, the effect on the Gibe III reservoir on the lake water level will be more positive. The fluctuation would be reduced to 0.18 m from that of prior to Gibe III dam construction which is 0.76 m reduction in the lake Turkana water level during drought years. This is illustrated in the figure below.

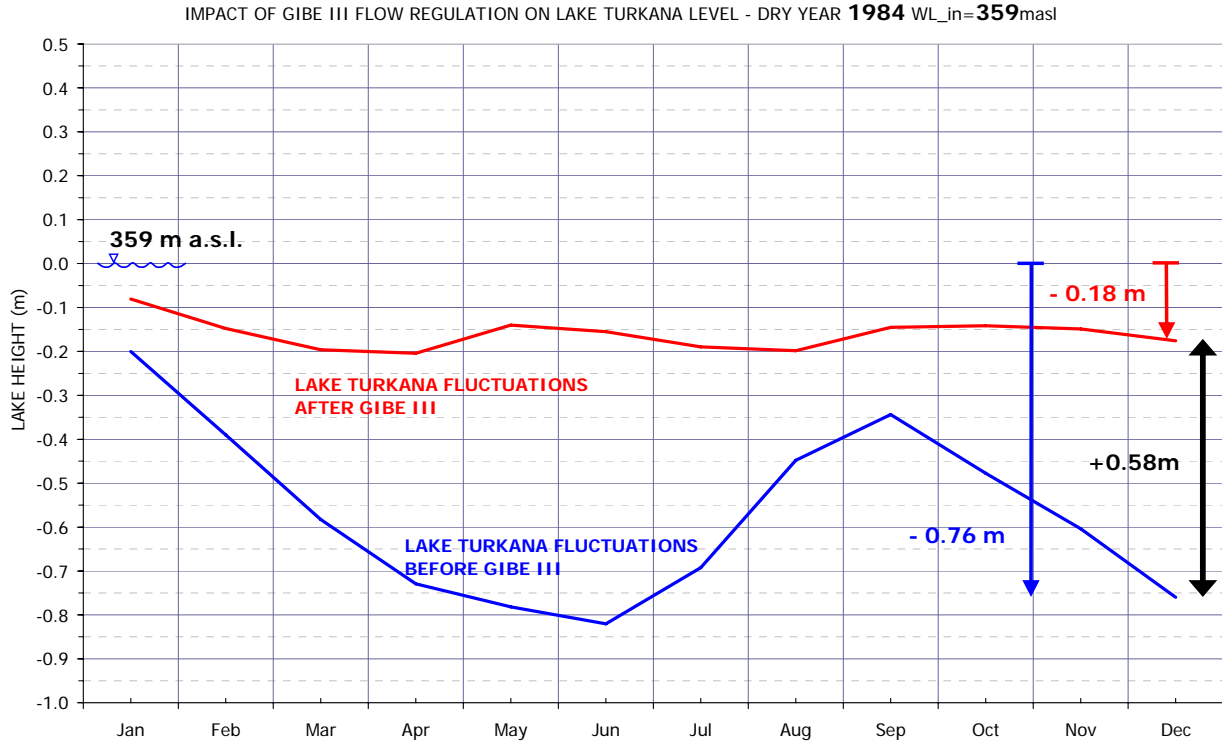


Fig. 4- Impact of Gibe III flow regulation on Lake Turkana Level- Dry year

As we can easily understand from the above figure, in very dry years (such as 1984 with only 13,600 Mm<sup>3</sup>) and for initial low level, Gibe III regulation will contain the lake level decline reducing of up to 75% the shrinkage that would occur in natural conditions.

The construction of the Dam is not a threat for the downstream as well as for upstream communities. The communities also expressed their positive views towards the Project. What they would rather aspire is to have developmental activities in their own village. They attach particular importance for the Gibe III HEP because they have been well informed about the Project and its positive externalities. In fact, EEPCo will do a lot of developmental activities for both the upstream and downstream communities in accordance with the established mitigation measure plan.

As far as Lake Turkana is concerned, it must be underlined that the Kenyan delegation, which paid a reconnaissance visit to the Dam Site, affirmed that the impact is very minimal. It would rather give a remedial solution to the power deficiency for the Kenyan government. Who would give a witness for this than the delegates in power?

## 5. Project Financing

Ethiopia has requested the EIB, AfDB and other potential financiers so as to get done the project within the time frame to meet the ever-increasing power demand of the country and earn foreign currency by exporting the surplus to the neighboring countries.

To this end, the financiers have paid a series of visits to the project site to confirm whether the project is viable economically, financially and technically. In addition, they have closely investigated the project in terms of its environmental and social impacts.

In all this way, the potential financiers have remarked that the project is said to be the best option; and it also is very ideal in terms of its geographic location. However, the process of financiers to grant loans is time-taking, and hence unnecessary delays have been faced by the project. As a result, it has become very difficult to implement the project within the scheduled time.

Therefore, the Government of Ethiopia is forced to look for other alternative sources of financing with its development partners.

Consequently, the Ethiopian Electric Power Corporation (EEPCo) and Dongfang International Electric Corporation (DEC) of China signed two contractual agreements on May 12, 2010 with an out lay of 495.51 million US\$; for the execution of the Electromechanical and Hydraulic Steel Structure Works of the Gibe III Hydroelectric Project with a finance to be arranged by the latter through a lending bank on the basis of the Memorandum of Understanding (MoU) signed earlier on Oct 2009 between EEPCo and DEC.

The scope of works consists of design, procurement, manufacturing, shop-testing, and delivery to site, erection, test and commissioning of the Electromechanical and Hydraulic Steel Structure equipments of the Project. In line with this, the proposals submitted by DEC for both works have been found acceptable in terms of cost, time and quality on the basis of the technical specification requirements of the Project.

Accordingly, the negotiation for loan from the Industrial and Commercial Bank of China (ICBC) which covers about 85 percent of the total cost is on progress.

However, opponents of the project are still mounting their adverse comments in that Ethiopia has deliberately shifted from international financiers to China because the World Bank and the

African Development Bank have withheld funding until an environmental impact report is received.

In relation this, Peter Bosshard, policy director of International Rivers, and its affiliates expressed their unfounded concern in an exclusive interview with the *South China Morning Post* ([www.scmp.com](http://www.scmp.com)) in the early week of June 2010. In their opinion the Gibe III hydroelectric project is one of the most destructive infrastructure projects in recent years, and that is why the World Bank and other international financial institutions have not yet approved funding for it. This is because, according to them, the project is already branded as a threat for the livelihoods of half a million agro-pastoral communities.

Here, two important things have to be very clear; the sole reason that Ethiopia has shifted to China is that the international financiers have taken much more time in approving the fund. As the Gibe II Hydroelectric Project is planned to be implemented under a fast track approach and the project faced a considerable delay in securing the finance from the above said financiers, the Government of Ethiopia has decided to look for other possible financing sources in order to accomplish the project within its time schedule. Also, unlike the adverse comments, the AfDB and WB have already received the ESIA documents and moreover AfDB posted the Executive Summary of the ESIA report on its website.

On the other hand, China is not in a position to finance projects that are not environmentally compatible. In this regard, the opponents of the Gibe III hydroelectric project would also give their witness by saying “China has made impressive progress in reforming its banking sector through its green credit policy. There are 251 dam projects in 57 countries with Chinese financing and/or construction. China has become by far the most important actor in global dam building.

We can infer from the very statement of the opponents that they have admitted that the Chinese banks live up to their best policy of rewarding the natural environment. DEC has entered a contractual agreement because it has been convinced by the minimal environmental and social impacts of the Gibe III hydroelectric project before going further. Do they mean that China will finance this project exceptionally violating its national policy? We don't guess so.

Lobbying to stop Gibe III's construction without adequate reasons is capricious and irresponsible. The project would never be a cause for devastating the natural environmental and to the agro-pastoral communities in all aspects. Such irrational and unprofessional comments are not expected from those who have thinking mind unless they have in dire need to exercise/accomplish some hidden agenda against Ethiopian development efforts.