

Ethiopia Heads towards Building a Green Economy

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During the last several years, Ethiopia has been implementing five-year rolling plans with the objective of eradicating poverty. Accordingly, the Sustainable Development and Poverty Reduction Programme (SDPRP) and Plan for Accelerated and Sustained Development to end Poverty (PASDEP) were implemented between 2002/03-2004/05 and 2005/06-009/10.

Remarkable achievements of economic growth and social development were registered during those plan periods. Based on the results and experience gained so far, the Government has launched the Growth and Transformation Plan (GTP) for the period 2010/11-2014/15. The GTP aims at achieving the Millennium Development Goals (MDGs) targets by 2015, and the long term vision of Ethiopia is to raise its GDP and the standard of living of its population to a level of a middle income country by 2020-2023.

The GTP places special emphasis on agricultural - especially smallholder farming - and rural development, industry, infrastructure, social and human development, good governance and democratization. Clearly, those sectors would require huge amount of energy. The strategic direction with regard to energy during the GTP period is to develop renewable energy, expand energy infrastructure, and to create an institutional capacity that can effectively and efficiently manage such energy sources and infrastructure.

The energy sub-sector major objectives are, firstly, to meet the demand for power in Ethiopia by providing adequate and reliable energy supply that satisfies the required standard. That objective will be achieved by accelerating and completing the construction of new hydropower generation projects, and strengthening the existing transmission lines to provide improved access to rural villages all over Ethiopia. The other objective is to export energy to neighbouring countries for strengthening economic relations with them based on mutual advantages.

Ethiopia's initiatives and plans for generating electricity are envisaged in the country's Green Development Strategy.¹ The most promising renewable energy sources include wind power, solar energy, biomass, biofuel, geothermal and hydropower. Ethiopia in its Growth and Transformation Plan has given prominence to hydropower development. And at the heart of the hydropower development has been the construction of the Great Ethiopian Renaissance (Millennium) Dam on the Abay (Blue Nile) River. To appreciate more the present emphasis on renewable energy resources in general and hydropower in particular - and the strategic decision to construct the Millennium Dam - it will be useful to trace the historical development of the hydropower sub-sector during the last eighty years (see the following table). For easy reference, we shall divide the historical period into four phases:

¹ Growth and Transformation Plan 2010/11 – 2014/15, Volume I: Main Text.

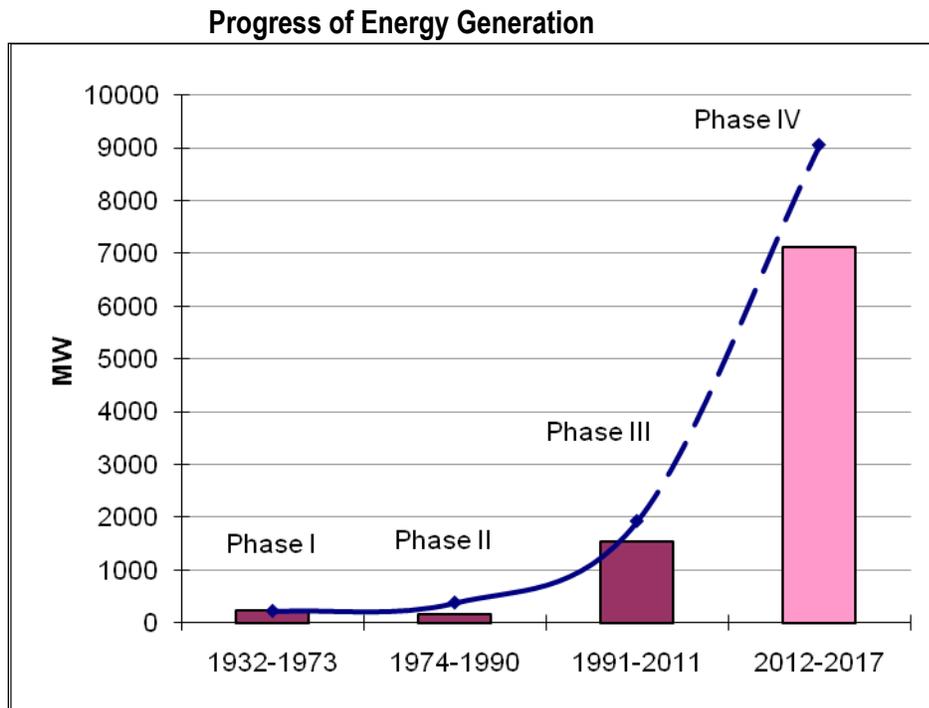
Historical Development of Energy Generation in Ethiopia

PHASE	YEAR	MEGAWATT (MW)
Phase I		
1. First Dam on Akaki River	1932	6
2. Tis Abay I on Abay (Blue Nile) River	1953	11.5
3. Koka Dam on Awash River	1960	42.3
4. Awash II on Awash River	1966	32
5. Awash III on Awash River	1971	32
6. Fincha Dam on Fincha River	1973	100
Sub Total		223.8
Phase II		
7. Melka Wekena Dam	1989	153
8. Sor Dam	1990	5
Sub Total		158
Total Phases I & II		381.8
Phase III		
9. Tis Abay II	2001	75
10. Gilgel Gibe I on Omo River	2004	184
11. Tekeze High Dam on Tekeze River	2009	310
12. Gilgel Gibe II on Omo River	2009	420
13. Tana Beles on Belesa River	2010	435
14. Ashegoda Wind Farm Project	2011	120
Sub-total		1,544
TOTAL Phases I, II & III		1,952.8
Source: tиграionline.com		
Phase IV		
15. Gilgel Gibe III	2013	1,870
16. The Great Renaissance Dam on the Blue Nile River	2017	5,250
Sub-total		7,120
Grand Total		9,045.8

It is interesting to note that the first source of energy was a hydropower dam built on the Akaki River, and commissioned in 1932. The year 1932 is significant not only because the first hydropower dam was introduced during this year to Ethiopia, but it was also the eve of invasion of the country by fascist Italy in October 1935.

The country had made some efforts to develop hydropower until 1973, by which time six minor dams were built to generate 223.8 MW of electricity. Three of the dams were built on the Awash River. The smallest dam during the twenty-year (1953-1973) period was the Tis Abay 1 built on the Abay (Blue Nile) River. Two dams were constructed in Phase II between 1974 and 1990 to generate 158 MW of electricity. The total electricity generated during the two phases amounted to 381.8 MW. During Phase III, which extended from 1991 to 2011, five dams and a wind farm project were constructed to generate 1544 MW of electricity. Under Phase IV the two Dams are expected to generate a total of 7120 MW. This is almost four times of what is presently generated.

As the Graph below indicates, the Great Renaissance Dam, when completed, will dramatically boost the energy sub-sector. The GTP, which will require a large volume of energy for its implementation has necessitated the construction of this Dam. It is expected to enhance power production in Ethiopia by generating 6000-8000 MW of electricity. Ethiopia is believed to have the potential of generating up to 60, 000 MW of energy, of which about 45, 000 MW could be from hydropower. The bulk of it is anticipated to be generated from the Abay River.



In the past, some attempts were made by Ethiopia to explore the possibilities of using the resources of the Abay (Blue Nile) Basin. Detailed studies were made by a United States consulting firm on the Blue Nile Basin in the 1950s and 1960s. The objectives were to generate electricity and to develop irrigated agriculture. None of the objectives materialized, however, except the construction of the Tis Abay 1 which was commissioned in 1953 to generate 11.5 MW of electricity. To date, the country is hardly generating 2000 MW from hydropower.

Why was Ethiopia limited to this pittance of hydropower generation while its potential could go as much as 45, 000 MW? There are endogenous and exogenous factors that caused Ethiopia to lag behind in terms of social and economic development in general and hydropower development in particular. The endogenous ones relate to centuries of backwardness and impoverishment which prevented Ethiopia from exercising the right of using resources of its own rivers.

Exogenous factors have also played a part in the inability of the country to tap its water resources. We will limit ourselves to those that are related to the relationships between the upstream and downstream countries in general and those between Ethiopia and Egypt in particular. Ethiopia and Egypt have very long historical ties. Throughout this period Egypt has used various mechanisms to prevent Ethiopia from using the Abay River for its development. It employed religious, political, diplomatic, attempts of direct invasions, proxy wars through unfriendly neighbouring governments, supporting disgruntled groups opposed to successive central Ethiopian governments, colonial treaties, etc. Its most effective modern tool was to use its strategic position in the Middle East and its influence with some of the industrialized countries and financial institutions under their control.

In addition, Egypt had several policy tools to keep Ethiopia weak and underdeveloped. These include attempts of direct invasion to control the source of the Blue Nile. In the 19th Century, Egypt attempted to invade Ethiopia on several occasions from different fronts. It threatened Ethiopia with war during President Sadat's time in the 1970s. Rather than negotiate with riparian countries such as Ethiopia, Egypt has been contemplating plans for using Nile water for various purposes - using colonial treaties as bases - such as taking "water out of the Nile and putting it across the Suez Canal and into the Sinai, which is not geographically speaking part of the Nile Basin".²

After the old instruments outlived their use, Egypt found new ones. The most critical being to get some industrialized countries and the financial institutions they control to deny funds for Ethiopia's development of hydropower. The other was the use of some international NGOs which campaign against Ethiopia's hydropower development on the pretext of environmental protection. These agencies have the audacity to claim to speak on behalf of our communities and to lecture us that these communities retain their traditional way of living rather than improve their lives and livelihood.

Another important aspect of the historical relationship between the two countries is the role that Egypt's Coptic Church played in the religious, cultural and political life of Ethiopia. When the Coptic Church, by historical default, took over the leadership of the Ethiopian Orthodox Tewahdo Church from the fourth century up to 1950, it exercised total control of the Church and exerted tremendous political influence. Over 110 Egyptian bishops reigned over the Ethiopian Orthodox Tewahdo Church during this long period. Although they were linguistically, culturally, and politically alien to the country and people, yet they managed to hang on over a long haul.

However, serious problems had arisen on occasions, especially when there were delays in getting bishops from Egypt to crown emperors. There were also attempts to create national Ethiopian Synod for the Orthodox Church. Some of those attempts were made during the Zagwe Dynasty, particularly during the reign of Harbe in the 11th Century, but to no avail. It is believed that such attempts had led the Egyptian Church to take a subtle move of assisting the over throw of the Zagwe Dynasty by first designing two "books" called *Kibre Negest* and *Fitha Negest*, and eventually helping the local clergy and palace guards to over throw the Zagwe Dynasty.³ It was replaced by

² Professor Richard Tutwiler, Voice of America Radio Interview, summarised by Yeheyes Wuhib in "Nile Debate Emphasises Conservation, Water-Sharing", 29 March, 2011.

³ ፕ/ር ላጽሶ ጌ. ድሌቦ - የኢትዮጵያ ታሪክ መነሻና ሂደት 2008/2000፣ ኣዲስ አበባ፣ ኢትዮጵያ

the so-called “Solomonid Dynasty” towards the end of the thirteenth century. Sounds familiar: old version of “regime change”?

Whether the policies of the Egyptian Coptic Church were coordinated with those of the Egyptian State would make an interesting study. What is important to note is that the reigning bishops had imposed over 200 days of the year as holidays and saints’ days on the farmers, artisans and other working people of the followers of the Orthodox Tewahdo Church, which had negative impact on their production and productivity contributing to backwardness and impoverishment in Ethiopia.

Egypt is strategically located in the Middle East and used this strategic advantage— at least so far - in the western world to block Ethiopia’s effort to secure funds for its development. It maybe in this context that the Economist Magazine of 20th April, 2011 - in a sarcastic, brief note entitled - “The River Nile: A dam nuisance”, stated, “the Nile’s geology may be favourable for dam building, but the flow of money is not”.⁴ What the Economist and its ilk do not realize is the resolve of the Ethiopian people. The Government and people of Ethiopia are determined to build the Great Ethiopian Renaissance Dam with their own resources.

No sooner was the official commencement of the construction of the Great Ethiopian Renaissance Dam announced on 2nd April, 2011 by Prime Minister Meles Zenawi from Guba, Beneshangul-Gumuz than a rousing welcome of the news was expressed by millions of jubilant Ethiopians up and down the country. Ethiopia has at long last discovered its bearings. Artist Habte-Michael Demissie summarized it all as follows: *ዓባይ መገደቡ በጣም ደስ ብሎኛል፤ እኔ ብቻ ሳልሆን የኢትዮጵያ ህዝብ በሙሉ በልብና በአእምሮው ተዳፍኖ የኖረ ረመዋ ስለነበር አሁን ዋሩ ቀያሽና መሃንዲስ ሲያገኝ መንቀሳቀስ ጀምረዋል።*⁵ roughly translated into English goes thus: *I am very happy that this Millennium Dam is to be built on the Abay. Not only I but all Ethiopians are very happy because it has been simmering in the hearts and minds of the people, and they are now on the move because they finally got the appropriate designer and engineer.*

Prime Minister Meles sent two important messages during his inaugural address at the commencement ceremony: Firstly, that Ethiopia has not only a plan to construct the Dam but also the capacity to assert its own rights of using resources of its rivers. Secondly, the primary objective of using the resources of its river is to eradicate poverty without harming the interests of the neighbouring countries.⁶

The commencement of the Dam construction on the Abay generated two major immediate national and external effects: The first is the tremendous support of the Ethiopian people and their determination to contribute towards the cost of the Dam. And the second is that it induced Egypt to send a public delegation (from 29 April to 3 May 2011) to Ethiopia for the first time ever followed by an Egyptian government delegation headed by Prime Minister Essam Sharaf who arrived in Addis Ababa on 12 May, 2011 to speak with Ethiopian government officials, on the Nile issue. This is a welcome development but has to be taken with a grain of salt. It is naive to believe that a centuries-old perception that the “Nile belongs to Egypt and Egypt only” will dissipate into thin air within a short time.

It is, however, understandable that Egypt and Sudan should be concerned about the construction of the Dam on the Abay River. The River is the lifeline of their people. What is unacceptable, however, is the exclusive and proprietary attitude exercised in ways that are detrimental to the interests of a country that contributes the lion’s share of the Nile water. Ethiopia is on record for stating that it has no intention of harming the interests of the

⁴ The Economist Magazine of 20 April, 2011.

⁵ *Arhibu Programme*, Ethiopian Television, 24 April, 2011.

⁶ PM Meles’ Speech to mark the Official Commencement of the Millennium Dam Project, April 2/2011, Guba, Beneshangul Gumuz.

downstream countries in general and that of Sudan and Egypt in particular. Being the source of 86% of the Nile water, all Ethiopia demands is fair and equitable share of this water.

Regular and sustainable flow of the water could be assured only by cooperating with the upstream countries. There should be a common strategy where both the upstream and downstream countries have fair and equitable share of the Nile water. It is in this spirit that Ethiopia, while announcing the start of the Great Ethiopian Renaissance Dam on the Blue Nile, invited both Egypt and Sudan to join in the implementation of the project and its benefits. Moreover, there should be cooperation among the riparian states to carry out various ecosystem conservation and protection works both on the Blue and White Nile, such as forestation, reforestation, soil and water conservation activities that are required to maintain a sustained flow of the water from the Nile River.

In reality, they need to cooperate in designing and implementing joint programmes such as the MERET⁷ Programme of Ethiopia, which is generating multiple benefits to the communities that are implementing it. MERET type programmes could help revitalize many of the watershed ecosystems of the Nile Basin so that more water could be retained in the soil and in the geology of the highlands of Ethiopia. Since more water would be saved in an ecological and environmentally friendly way with less water lost to run-off or evaporation, this in the end would benefit the downstream countries.⁸

On completion, the Renaissance Dam will accelerate the pathway to a green economy in Ethiopia. There is already a “Green Development Strategy” designed for the country, which is embedded in the GTP⁹. However, there is no universal consensus yet reached on what constitutes a green economy- various institutions have different definitions of the concept. The United Nations Environmental Programme (UNEP) states that “Moving towards a green economy has the potential to achieve sustainable development and poverty eradication on a scale and at a speed not seen before”. UNEP further states that green economy is an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. It is also low-carbon, resource efficient and socially inclusive.¹⁰

The UN Conference on Sustainable Development (UNCSD) to be held in June 2012 in Rio de Janeiro as decided by the UN General Assembly, which chose as one of its major themes “a green economy in the context of sustainable development and poverty eradication” may come up with a consensus as to what constitutes a green economy. The concept of green economy projects the promise of a new economic growth paradigm that is friendly to the planet’s ecosystem and aimed at poverty eradication.

What is the policy framework that Ethiopia has put in place to meet the challenges of transition to the green economy? The green economy is new to all relative to the extant one which is also referred to as “brown economy” (developed western economy type which was first developed by Britain in the 1700s). Ethiopia has had a narrow industrial base and did not do much in establishing the brown economy, which is a major bottleneck to the country’s ability to create job opportunities for its growing labour force, and to generate foreign exchange for sustainable development.

⁷ MERET stands for Managing Environmental Resources to Enable Transitions to More Sustainable Livelihoods. It is an on-going Government-led and Community-owned Programme.

⁸ Prof. Richard Tutwiler, *ibid.*

⁹ Growth and Transformation Plan, Main Text, *ibid.*

¹⁰ UNEP Report 2011

The lack of base for brown economy can be, however, harnessed as a real opportunity to transit to green economy. Green economy is based on renewable resources such as solar, wind, geothermal, organic matter, biofuel, and hydropower. This is precisely a policy direction widely embraced by Ethiopia today.

The Growth and Transformation Plan, as a development framework, is orientated towards a green economy approach. The strategic directions of the vital sectors of agriculture - especially smallholder farming - industry, infrastructure, education, health, water, soil, transport system, and energy are set within this framework. While agriculture is still the lead sector as an engine of growth of the Ethiopian economy, industry is being given all the necessary preparations to take over agriculture at a later stage. It is envisaged in the GTP that the industrial sector will receive the highest level of support for import-substituting and export-orientated industries.

Clearly, green economy entails green technology. And most of the technologies are still owned by brown economies. However, Ethiopia has gained experience at least in one of the major areas of renewable resources, i.e., hydropower development. It could be seen from the table and graph above that, although in a modest scale, Ethiopia started to develop its hydropower resource from long time ago.

Furthermore, capacity development, skill and knowledge acquisitions are important corollaries to green economy development. And Ethiopia has launched more science and engineering-based higher education institutions to meet such needs. Much attention has, therefore, been given to enhancing education opportunities in the sciences, technology and engineering in the country, with the establishment of 22 universities, 10 more under construction and other colleges in operation. What is needed is to give more emphasis to environment management, ecological economics and other related subjects in order to create a generation of leaders to support sustainable economic growth and a green economy in the country.

The growth and Transformation Plan is aimed at eradicating poverty and carrying out activities that are friendly to the earth's ecosystem. At its heart is the objective of equity. It is, therefore, pro-growth, pro-poor, pro-jobs and earth-friendly.