

## Domestic Resource Mobilization in Ethiopia: An Assessment on Water Resources Mobilization

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### Abstract

This paper reveals the effort of Ethiopian government to mobilize its domestic water resources to support the country's development initiatives as a better alternative to reliance on foreign aid. To achieve this objective, the researcher employed qualitative methodology. Besides, data were gathered from both primary and secondary sources. Based on the data analyzed, the study revealed that the government of Ethiopia has been committed to utilize its domestic water resources to support the overall development initiatives in the country. Accordingly, it has constructed several small and medium-scale hydro dams, which are currently supplying above 2000 MW electric power. It has also three crucial hydro dams under construction; their completion is expected to bring substantial change to the people and development for the country. Moreover, there are several dams which are planned to be constructed in the future. The findings of the study also show that, the aforementioned dam projects have been, all in all, financed and coordinated by Ethiopian government and its people. The government relied on its domestic available resources than the declining support from international donors. Thus, the study concludes that Domestic Resource Mobilization (DRM), mainly water resources, has been taken as a viable means of Ethiopia's development since very early on, ahead of recent studies, which show the projected decline of foreign aid to African countries. The study calls for strong commitment of all the concerned bodies to effectuate the hydro dam projects under construction and future planned projects by sustaining their unlimited support to realize Ethiopia's vision of becoming a middle-income country in the near future.

**Keywords:** Ethiopia; Water resources; Hydro dams; DRM; Foreign aid

### Introduction

African countries are least developed countries in the world. They are highly dependent on foreign aid for various development initiatives [1]. Despite the high degree of reliance on foreign aid, aid to Africa is projected to decline, and the least-developed countries are expected to face continued stagnation or decline in programmed aid [1,2]. As a result, DRM is considered as a better solution to sustain African countries' development initiatives [2]. DRM is too vital as it increases their ability to achieve long-term development objectives [3]. Besides, unlike foreign aid, domestic finances are more predictable, reliable and can be directed to desired sectors [4]. However, African countries are unable to mobilize adequate domestic resources to meet their investment needs, thereby remaining to pray for foreign aid [4].

Ethiopia is one of the poorest countries in Africa. Its people have experienced a recurring drought and famine despite its huge domestic resources [5]. In addressing the problem, the country has been ultimately relying on the supports to come from external countries in the form of foreign aid. Conversely, with the understanding of the possible declining of foreign aids in Africa and Ethiopia, in particular, the government of Ethiopia has been strongly convinced to use its domestic resources to finance its development; these include tax collection, non-tax revenue, domestic borrowing, and other domestic income sources [4].

Despite the still existing recurring problems, Ethiopia registered a remarkable economic growth for the last ten years at annual growth averaging 11%, which is double of the average growth for Sub-Saharan Africa and triples the world average growths, thereby making it one of the fastest-growing economies in the world [3,4]. Sustaining such growth requires increasing reliance on domestic resources to reduce the risk of volatility associated with external funding [3,6]. With this understanding, the government has provided a paramount importance to DRM. Strengthening domestic revenue generation capacity and financing major investment projects with its own fund have been one of the objectives of its fiscal policy [7]. Accordingly, by strengthening its DRM capacity, the government has financed 82% of its expenditure from domestic revenue [4,8]. This DRM effort, in turn, increased the country's capacity to finance its development projects [7]. This shows the right choice made by the government as foreign aid, if at all exists, has a negative effect in the economic growth of the country in the long run [9].

The most significant manifestation of DRM in Ethiopia is government's utilization of water resources. Therefore, this case study reveals the effort of Ethiopian government in harnessing its water resources (hydro power potential) to bring sustainable development in the country, as an alternative to reliance on fluctuating and unreliable foreign aid. To achieve this, the researcher employed qualitative methodology due to the nature of the study. Besides, desk researches such as books, articles, government documents, and internet sources were used. To substantiate the data gathered from the desk researches, the researcher also used primary sources where data were collected through in-depth semi-structured interviews with key informants from pertinent institutions. Purposive sampling technique was used to

trace pertinent persons who can give relevant information on the issue. Accordingly, the sampling size was determined by theoretical/data saturation.

## Presentation of the Case Study

### Ethiopia's hydro power potential and its mobilization efforts

Ethiopia has abundant water resources. In line with this assertion, it has been referred as the "Water Tower of North-Eastern Africa" [10]. The country is a source of six trans-boundary rivers, including the Blue Nile. On average, the surface-water potential amounts about 111 billion meter cube. Ethiopia has an aggregate capacity of 60,000 MW electric power of which 45,000 MW is from hydro, 10,000 MW from wind and 5,000 MW from geothermal [11]. This shows the huge hydro power potential within the country. Nonetheless, the country generates only a very limited amount out of the total 45,000 MW [11-13]. Molla [14] noted that electric power generation has increased from 370 MW in 1991 to 2,268 MW, which is still insignificant as compared to the country's potential and the people's demand. However, considering the overriding energy demand of the people and the expected declining of foreign aid, the government is now aggressively harnessing its water resources. It has demonstrated a strong political commitment in fighting to win the war on poverty by mobilizing its domestic water resources. This is evident from the small and medium-scale hydro dams functioning today and mega projects, which are under construction. This depicts the strong commitment of the government in taking DRM as a prime engine for the country's development initiatives, in contrast to unpredictable foreign support. Most importantly, the prevailing fast economic growth requires huge electricity. Accordingly, to sustain and further accelerate this economic growth, the government is convinced that mobilizing its water resource is indispensable and has been strongly working on it [14].

### Reluctance in foreign support and the popular commitment to use domestic resources

The support of the international community has been limited to addressing short-term problems in terms of providing food and daily bread in emergency cases. However, the external support for long-term development initiatives is insignificant. Most importantly, they did not give finance to the Ethiopian hydro power projects [14].

Being aware of this fact, the government resorted to utilize all the available domestic resources to sustain and further the country's development projects. Currently, all the dams are being financed by domestic sources, including diaspora support. In this regard, it should be noted that Ethiopia is the first African country to introduce diaspora bonds and managed to raise \$30 million to finance its hydro dam projects notably GERD, which is the most costly project as compared to others [3,4].

Both domestic residents and diaspora are assisting GERD with their labour, knowledge, skill, and finance. In a nutshell, the all-rounded public participation on the GERD is a good lesson for other African countries, which suffer from the declining foreign aid. Thus, the government and its people are highly commitment to use their domestic sources to develop and sustain Ethiopian hydro dam projects, despite reluctance in foreign support.

## Outcomes and Overall Assessments

As a result of the efforts made, the government managed to do several small and medium-scale hydro dam projects, which are currently functioning. These are outlined as follows (Table 1).

S. No.	Projects	Capacity (MW)
1	Koka	42
2	Awash II	32
3	Awash III	32
4	Finchaa	134
4	Finchaa Amerit Neshe	97
5	Melka Wakena	153
6	Tis Abay I	11.4
7	Tis Abay II	73
8	Gilegel Gibe I	210
11	Dire Dawa	40
12	Awash 7 killo	35
13	Tekeze	300
14	Gilgel Gibe II	420
15	Beles	460

Source: Ethiopian Electric Power Corporation.

**Table 1:** Completed hydro dam projects.

As indicated in the above table, completed hydro dams have started producing above 2000 MW electric power. By constructing these hydro dams, the government has managed to address certain part of energy demand of the society. Currently, over 6,000 urban and rural areas get access to electricity while it was only 320 urban and rural areas, which were accessing electricity before 1991 [14]. The electric power produced from these dams is also serving the energy demands of development initiatives. Developing industries are receiving electric power. Besides, Addis Ababa modern light railways are also working by electricity. Above all, Ethiopia is currently receiving certain currencies in return to the electricity it exports to its neighbors. For instance, Ethiopia is at present exporting 35 MW electricity for Djibouti, 100 MW for Sudan, and 60 MW for Kenya [15]. It is also highly committed to generate more foreign currencies from these and other countries by developing its energy capacity. Hence, it is possible to conclude that, though inadequate, these dams have a crucial role in the country's overall development programs.

The power demand of the country is constantly increasing. Industries and other development projects are demanding huge energy. Cognizant of this unwavering energy demand, the government has continued to utilize its water resources effectively. Herein under indicated are the dams under construction to serve the prevailing and future energy demands and thereby contributing to the country's development.

From the above under construction dams, the magnificent initiative from the government to mobilize its water resources for the entire

development in the country is manifested by the Grand Ethiopian Renaissance Dam (hereafter GERD). In 2011, the government announced the commencement of GERD (Table 2).

S. No.	Projects	Capacity (MW)
1	Grand Ethiopian renaissance dam	6000
2	Gibe iii	1870
3	Gennalle Dawa iii	254
Source: Ethiopian electric power corporation.		

**Table 2:** Hydro dam projects under construction.

The dam is expected to reserve water twice the amount of Lake Tana. Up on its completion in 2017, it will produce 6000 MW electricity. The government and its people are heavily relied on this dam for the country's future development. This can be observed from the strong commitment of the people in supporting the project. The project is being financed by domestic sources obtained from taxation, remittance and diaspora bond [16]. In relation to this, it is also stated that GERD is an immense nationwide project that has mobilized the whole population to be the engineer, the finance source, coordinator. This clearly shows the strong commitment from the government and its people to bring sustainable development with the effective utilization of domestic resources (mainly hydro power), and thereby reducing reliance on foreign aid. Now, the project is above 55% completed and projected to start producing around 600 MW power soon [17] (Table 3).

S. No	Projects	Capacity (MW)
1	Tekeze II	450
2	Beko Abo	1600
3	Mendeya	2000
4	Gibe VI	1470
5	Gibe 5th	660
6	Wabi Shebele	87
7	Birbir	467
8	Lower Dedessa	613
9	Dabus	427
10	Beshilo	700
11	Tams	1000
12	Genale Dawa 5th	100
	Total	9572
Source: Ethiopian Electric Power Corporation.		

**Table 3:** Future planned hydro dam projects.

Gibe III is also another important dam under construction. Gibe III is a 1,870 MW facility comprising a 240 m dam creating a reservoir with a surface area of at least 200 km<sup>2</sup>, live storage of 11,750 million

m<sup>3</sup>, underground and inclined penstocks, and a surface powerhouse equipped with 10 power generating units and switchyards [18]. Up on its completion, it is expected to contribute a lot in addressing energy demand of the people. Ethiopia has also planned to export electricity for Kenya's market and receive more currencies. Now, the dam is on the verge of completion.

Gennalle Dawa III is also under construction dam nearing its completion. This dam will generate 254 MW electricity following its completion. Thus, one can safely comprehend the momentous role of these dams in the development of the country and changing the life of its people. However, the government and its people are still required to perpetuate their unwavering commitment in financing the dams for their completion.

Hydro dams mentioned at the table above have been under feasibility and preliminary study. According to the feasibility study results, these projects will be commissioned up to 2020. As indicated in the above table, upon completion of the study and construction of the planned dams, the country can produce 9572 MW electricity. This is promising for the future development of the country though strong and unwavering commitment of the government and the entire population in supporting the projects is highly required. In any way, one can plainly understand the firm stance of the government in mobilizing its domestic water resources for the country's development.

## Lessons Learned

The followings are lessons to be learned from the DRM initiative of Ethiopian government and its practical actualities. DRM has a pivotal role in the development process of one country. It is also true that in the era of declining foreign aid, particularly to Africa, including Ethiopia, using domestic resources has an irreplaceable role. From the practice of Ethiopia, it can be learned that the strong commitment of the people in terms of financing and assisting development initiatives is too crucial. This includes the commitment of diaspora in terms of buying bonds and sending remittances to their home land. It is true that all the small, medium and large-scale hydro dam projects in Ethiopia have been undertaken with the exclusive support of domestic sources. This can be a lesson for other developing African countries, which are expected to face serious challenges with the projected decline of foreign aid.

## Conclusion and Recommendations

Ethiopia's government is at present aggressively harnessing its water resources to reduce poverty and bring sustainable development in the country, regardless of the projected decline of foreign aid. Accordingly, it has constructed several dams, which are currently providing electric power for the people and numerous evolving industries. Besides, the country is receiving foreign currencies by exporting electricity. To mobilize further its water resources, the government is carrying out additional mega projects. Moreover, the government has planned to construct several hydro dams, which have a promising impact in changing the life of the people. Hence, the researcher concluded that the government devotes itself to mobilize its domestic resources (mainly water resources) to bring the country's development. Putting otherwise, Ethiopian government is in the right track in terms of generating revenue from domestic resources and properly allocating it to economically and socially productive investments.

For effective implementation of this DRM initiative, the researcher recommends that there is a strong demand on the public to sustain

their unreserved support for such hydro dam projects. It is true that the support of external donors is now declining, thereby implying the need for the public to contribute their labour, knowledge, skill, finance, moral support unreservedly. The researcher also recommends that, the government should well refine its policies in a way that can further encourage Ethiopian diaspora to buy bonds and send remittances to their home land. It is beyond doubt that the country needs huge electric power to shoulder its fast economic growth and to realize its vision of becoming a middle-income country in the near future. To this end, the paper calls for strong commitment of all the concerned bodies to effectuate the hydro dam projects under construction and future planned projects.

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