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ESTABLISHING THE CONDITIONS FOR THE CONSTRUCTION OF THE GRAND INGA DAM IN THE DEMOCRATIC REPUBLIC OF THE CONGO

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INTRODUCTION

The hydroelectric Grand Inga Dam is a proposed project, which, if completed, would become the fourth dam at the Inga Falls of the Congo River. Its goal is to spur industrial and economic development across Africa. Having an expected generating capacity of 39,000 MW, its energy output would be roughly twice that of the current largest energy-producing body of any kind, the Three Gorges Dam, which is located in the Yiling district of China. According to some estimates, the budget for the project would total at least $80 billion, with some experts saying it could reach far over $100 billion. Since 2011 the project has been in its feasibility study stage, which means that it is being assessed, whether the dam is practically and economically possible to build. However, next to no direct action has been taken regarding the construction of the project, as further questions arise. While the project is expected to generate large amounts of energy, only a minor part is expected to be made available directly to the people of DRC and Africa. Furthermore, there is no concrete plan on how to supply the area immediately surrounding the project and other poor communities with the energy created. Moreover, governments in Africa, including the Congolese, have their reputation tarnished by a history of money laundering, illegal activities and corruption. Considering those factors, the Grand Inga Dam may potentially hinder, rather than accelerate the country's economy, with the very question of who will fund the project still open.

GENERAL OVERVIEW

The Grand Inga Dam is a proposed hydroelectric dam, which would become the largest single energy producing body in the world. It would be the fourth dam at the Inga Falls, which are located in the Democratic Republic of Congo. With an expected capacity of 39,000 MW, it will produce almost twice the energy of the current largest hydroelectric dam, the Three Gorges Dam, which is located in China. It is as of 2011 in its feasibility study stage and is expected to cost at least $80 billion, with some estimates surpassing $100 billion. Some funding for the project has been provided within the past decade, however it was used only for studies and no concrete action towards beginning construction has been successfully undertaken. By some, the project is considered to be the way to "light" Africa, meaning securing an economic upswing. Several organisations have listed the project as a priority, including the Southern Africa Development Community, the New Partnership for African Development, the South African Power Pool and the World Energy Council.

The project site is located in the Democratic Republic of the Congo, 150 km upstream of the mouth of the Congo River. The river is the world's second largest in terms of flow and the second longest river in Africa only behind the Nile River. The Congo river is unique in having many rapids and waterfalls close to its mouth as opposed to upstream, which is usual for most rivers. The project site, the Inga Falls is one of the largest waterfalls in the world. Overall, the Congo River drops almost 100 meters in the span of just below 15 kilometres at the Inga Falls.

The project is planned to be constructed in seven phases, some of which can be completed by independent contractors. The initial phase (Inga 3 BC) would require the flooding of a valley running parallel to the Congo river bed. Further stages would require the flooding of the Bundi Valley.

The Grand Inga Dam is hoped to be the solution to one of Africa's major problems, the low supply of energy, which is one cause for its limited economic development. The continent however harbours potential for various forms of energy production, ranging from hydropower to fossil fuel energy. On of the upside of the project is it being a clean renewable energy source. The goal of the dam is to provide cheaper, more easily accessible energy to African industry and manufacturing in order to fuel the economy.

The Grand Inga dam project will require large amounts of funding, most of which have not been secured. There have been grants by several organisations, the largest one coming from the World Bank (over $73 million), however it was later withdrawn due to disagreements over the project. Historically, the African continent has seen corruption by its governments, which raises the question of whether the Grand Inga Dam will be any different.

The construction of the dam could have several negative impacts on the surrounding region. Multiple areas, including the Bundi valley, would have to be flooded in order for the project to be completed. The above mentioned valley is home to local agriculture lands, the flooding of which could have a significant impact on the lives of local inhabitants. Furthermore, by changing the flow of the Congo River, damage to biomass could be caused. Significant parts of local rainforests would have to be cleared in order to provide access to the project site, resulting in further negative environmental impact.

While the dam's aim is to spur the economy of the DRC and improve the life of its people, only a minor part of its energy output will be made directly available to them. In fact, most of the output will be sent to far-away urban centres and businesses. Local communities mostly do not have connections to larger power grids, which makes it currently impossible to use the Grand Inga Dam electricity for them. A majority of Congolese households do not have reliable access to electricity.

MAJOR PARTIES AND THEIR VIEWS

Democratic Republic of the Congo

The government of the DRC has repeatedly increased the projected capacity of the first stage of the project (Inga 3), however it is yet to secure funding. The plan of the government is for Inga 3 to send most of its energy to businesses and urban areas, leaving only around 1000MW for the country's own people.

South Africa

The South African government has signed an agreement with the DRC, to be provided with 2300 MW of the capacity of Inga 3.

Non-African countries

The United States and Europe have been in recent years becoming increasingly skeptical to hydropower, due its impact on the local environment and communities. China has not renewed a pledge to help fund the project through one of its banks. European lawmakers are now backtracking on the once proposed funding of the project by the European Investment Bank.

Congolese unions

Members of Congolese unions in the manufacturing industry are set to benefit from the construction of the Grand Inga Dam, since it would provide energy for their employers.

DEFINITION OF KEY TERMS

Inga Falls

A large waterfall which lies on the Congo River, this waterfall drops 96 meters, is at a length of 14 kilometers, and flows at a rate of 43,000 cubic meters per second.

Grand Inga Dam

Currently the world's largest proposed hydroelectric dam scheme, which lies in the hope of creating a continent-wide power system. This proposition would be the fourth (and largest) building of a series of dams that have been built, under the "Inga Dams" scheme on the Congo River. This

hypothetical dam would generate 40,000 MW, double the capacity of the world's largest dam, the Three Gorges Dam.

Congo River

Formerly known as the Zaire River, the Congo River lies in west-central Africa. This 4,700 km river is known as the continent's second longest river, after the Nile. This river plays into the strengthening of the Congolese economy, where irrigations are done to help water peanut, cotton, tobacco, and sugarcane crops, which play a significant section of Congolese exports.

Hydro-electric power

Hydropower can be perceived as water power. This meaning that hydropower is a form of power derived from the kinetic energy of falling water and/or fast running water. This collected energy/power can be stored to use for useful purposes, like electricity.

Hydroelectric dam

A barrier which works on the basis of hydroelectric power's potential energy of dammed, which drives a water turbine along with a generator. A large pipe which is attached to the dam delivers water from the reservoir to the turbine; thus, yielding hydroelectric energy.

Three Gorges Dam

Currently The world's largest hydropower project and the most notorious dam. This dam is often put in relation with the Grand Inga Dam, as the aforementioned dam will surpass this grand barrier significantly. The Three Gorges Dam is heavily debated and disputed upon, as it has displaced more than 1.2 million, flooded 13 cities, 140 towns, and 1,350 villages), and has the largest reservoir length (600 kilometres). This dam lies on the Yangtze River in Yichang, China.

Run-of-the-river hydroelectricity

Often abbreviated to ROR, run-of-the-river hydroelectricity is a method of power/energy storage which is viewed as more effective than usual hydroelectric power storage. Such power plants may have no water storage at all or a limited amount of storage. In many cases, a plant without a reservoir (which is usual with ROR dams) is subject to seasonal river flows, which makes the dam operate as a non-continuous source of electricity. Seasonal river flows which --ultimately decrease dangerous energy spurts-- regulate water for flood control.

World Bank

The World Bank international financial organisation that provides monetary loans to several countries for capital and major projects.

TIMELINE OF KEY EVENTS

- **2009** - The World Bank pledges its support for the project.
- **2010** - The African Development Bank provides $15 million in support to finance a feasibility study of the Grand Inga Dam project, which is later conducted by a Canadian/French Consortium.
- **November 2011** - South Africa and the DRC sign a Memorandum of Understanding for the development of the project.
- **2011 - 2013** - A feasibility study on the Grand Inga Dam project is conducted, estimating its total cost at around $80 billion.
- **2016** - In May of 2016, constructions looked ready to begin, however later that year, the World Bank withdrew its funding over project disagreements.
- **2020 onwards** - Opening of the Grand Inga Dam

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

As this issue is rather insignificant in the eyes of the world in comparison to other African issues -- namely civil wars and political instability-- the Inga Dam has not been viewed as a problem internationally; thus, no governmental or non-governmental organisation has tried to solve this. Rather, this was heavily endorsed by the Congolese and other African Governments and financially by many international banks. For example, the World Bank and the African Development Bank has pledged its part in funding the Grand Inga Dam project through granting massive loans to reach $80 billion. Moreover, South Africa will play a significant financing part in the project. This can be proved where 200 billion South African Rands were granted to the

Congolese government in 2013, supporting the completion of the Grand Inga Dam. It is also worth mentioning that the DRC's prime minister Matata Ponyo Mapon has said the Grand Inga would stand as the country's blueprint for a better future. Nonetheless, many people in Africa and elsewhere are starting to question the validity of this brazen statement. For many governments highly doubt that a single dam can lift people over the energy poverty, considering they live in a country which lays in the world's poorest continent.

QUESTIONS A RESOLUTION SHOULD ANSWER

The feasibility of the project

The funding of the project

The environmental impact of the project

The economic impact of the project

Working conditions

A timeline of completion

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