

Lesotho Highlands Water Project and Ramarothola Solar Project

- The Lesotho Highlands Water Project (LHWP) is an ongoing water supply project with a hydropower component, developed in partnership between the governments of Lesotho and South Africa.
- It comprises a system of several large dams and tunnels throughout Lesotho and delivers water to the Vaal River System in South Africa.
- In Lesotho, it involves the rivers Malibamatso, Matsoku, Senqunyane, and Senqu, It is Africa's largest water transfer scheme.

The purpose of LHWP

- The purpose of the project is to provide Lesotho with a source of revenue in exchange for the provision of water to South Africa, as well as generate hydroelectricity for Lesotho.
- According to (WIKIPEDIA), as of 2015, royalties paid by South Africa to the Lesotho government amount to R780 million, equivalent to about 5 percent of Lesotho's state income outside of taxes.
- The hydro-electric power has enabled Lesotho to become self-sufficient in electricity production, however criticisms have included loss of livelihoods for displaced people and ecological impacts.

History of LHWP

- Efforts to create a dam in the location were spearheaded by then British High Commissioner Sir Evelyn Baring in the 1950s, after initially being conceived by the South African civil engineer Ninham Shand while carrying out investigations commissioned by the British Government into the rivers of Lesotho.
- As initially conceived, the project was known as the Oxbow Scheme.
- After a feasibility study was conducted between August 1983 and August 1986 by the German-British Lahmeyer MacDonald Consortium, the project eventually began to be realized.

Advantages and Disadvantages of the LHWP

Advantages- social

- Firstly, 3 500-4 000 jobs were created through this project, thereby boosting the local economy. Secondly, Lesotho's infrastructure improved immensely, because roads were needed to transfer the different machinery and so roads were made on the mountains and building housing for villages.

Disadvantages-social

- Firstly, the Lesotho Highlands Water Project agreement requires that South Africa would continue importing water from Lesotho even if local dams were full, therefore rising costs would make it more difficult to get water supply to many townships.

Phase 1 of LHWP

Phase of the project comprises all the essential components to impound water in the Katse Dam, generate electricity and deliver water to the Vaal River System.

Phase I has been carefully configured so that Katse Dam remains the common link to further phases identified during feasibility studies.

In line with the phased approach, Phase I consists of Phase IA comprising the essential components, and Phase IB which enhances the yield of the project with the addition of two peripheral sources namely the Mohale Dam and the Matsoku Weir.



Phase IB

This phase of the project was completed in 2002. It consisted mainly of the construction of:

The Mohale Dam, a very large rockfill dam, located on the Senqunyane River;

A 32-kilometre (20 mi) transfer tunnel between the Mohale Dam and the Katse Dam;

Construction of the Matsoku Diversion Weir;

A 5.7-kilometre (3.5 mi) tunnel from the Matsoku Diversion Weir to the Katse Dam.

The system is interconnected in such a way that water may be transferred in either direction for storage in Mohale or ultimate transfer to South Africa through the Katse reservoir.



Ramarothola Solar Project

- Mafeteng Ha Ramarothole Solar PV Park is a solar PV project located in Mafeteng, Lesotho. The project is owned and being developed by TBEA Xinjiang New Energy Co Ltd.
- ANGRY Mafeteng villagers have blocked the construction of a M2,8 billion solar power generation plant in the district to force the government to first compensate them for the loss of their land.
- The project, being undertaken by Chinese contractor, Sinoma Tbea, is aimed at producing 70-megawatts (MW) of solar power to augment Lesotho's power supplies.

Benefits of Ramarothola Solar Project

- Clean Energy Generation
- Energy Independence
- Job Creation
- Rural Electrification
- Long-Term Cost Savings
- Environmental Benefits

How Ramarothola looks



How it looks



End Of Presentation

The water project and solar energy company are good for Lesotho but have some problems.

The water project might hurt nature and people, while the solar company needs a lot of money and may not work all the time.

To make them better, we should study how they affect nature and talk to people in those areas. Also, we can try to find ways to store solar energy better so it works all the time.

Thank You

By: Ts'ireletso Thakalekoala

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