

Location of the dam environmental sciences essay



**ASSIGN
BUSTER**

Contents

1. 1 Abstract

All nations in the world have been developing with some the help of technology. Developing nations would like to use the available resources effectively, but there are always negative impacts along with it. Usually countries would want to progress faster using the water resources effectively. Heavy structures like highways, dams, airports are a one time investment for construction, while its maintenance is low in comparison. Proper use of water resources by building dams can be beneficial for the production of electricity, irrigation system, and providing drinking water. One such dam was built in India where its adversity has out weighed its profit. The following report illustrates how the Sardar Sarovar dam project in India caused several negative impacts and massive destruction. The benefits and disadvantages are stated in the report here. The issues of resettlement and rehabilitation are discussed and how the people were affected adversely by the dam project. From my research I have come up with few alternatives for the construction of the dam, and how the displacement of people and the environment could have taken place. To sum up the report I have also added the conclusion which shall clarify how the Sardar Sarovar Dam Project has unfavorably affected the people rather than benefiting them.

1. 2 Introduction

1. 2. 1 History

The Sardar Sarovar Dam is a gravity dam on the Narmada River near Navagam, Gujarat in India. The construction and development of Sardar Sarovar Dam lie between three states of India. They are Gujarat,

Maharashtra, and Madhya Pradesh. The Sardar Sarovar dam Project is said to be the lifeline of Gujarat, and a very beneficial resource for the rural areas in these states. The dam is a case of development which affects the environment directly and indirectly. There is a massive environmental displacement which is not even taken into consideration nor given attention. There is a huge inequality between those who will benefit and those who bear the majority of the development costs. According to the review of Thomas Berger and Bradford Morse from World Bank, stated that the Dam project will submerge around 37, 000 hectares of land for the reservoir, and 80, 000 hectares for the extensive canal works. They also noted that it will displace 100, 000 people who live in 245 villages. Moreover, it will also affect approximately 140, 000 farmers for canal and irrigation system. Thousands of people will be affected who are into fishing industry. Given below are the effects the Dam project has on the environment, people and their culture.

1. 2. 2 Environmental Displacement

There were a few reasons why people were being displaced. They were either restricted access to the environment on which they were dependent for their lives and livelihood, or the induced deterioration of the environment would not be good enough to support them anymore. Many trees were cut down, and all the cultivated land was removed.

1. 2. 3 Economic Livelihoods

Many people were displaced as there was no funding for economic compensation for them. The Sardar Sarovar Dam project was committed to induce the people for resettlement and land lost, but very little to nothing was given to them.

1. 2. 4 Culture

The displacement of the people caused them to adapt a new and different lifestyle. Now, they were more dependent on public institutions and services than, living a non-dependent and isolated life. Although provisions were made for people to resettle and rehabilitate, there were issues and this means they would have to change their lifestyle. There were many people who are lost and have no clue on whom to depend, and are not even receiving sufficient compensation. The Sardar Sarovar Dam is a project where they have benefited the urban areas even more, and completely displaced the rural and poor people living in that region.

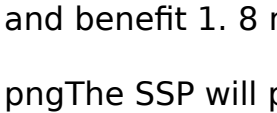


1. 3 Location of the Dam

The dam site is located between the three states of Gujarat, Maharashtra, and Madhya Pradesh, and is 180 kilometers from the Arabian Sea. Madhya Pradeshimages_endlinegra. jpgThe canal is the biggest in the world in terms of its capacity, which will extend 450 kilometers to the border between Gujarat and Rajasthan. The main canal is 250 meters wide at its head and 100 meters wide at the Rajasthan border. The total length of the distribution network is 75, 000 kilometers. The canal will require approximately 80, 000 hectares of land in total which is more than twice as much land as the area to be submerged. The river flows from North to South, and it passes from Rajasthan, Gujarat, Maharashtra, and Madhya Pradesh. The Narmada River is the fifth largest river in India, and the government was planning to use its waters for betterment of the states. Among the 30 dams that were planned to be built on the Narmada River, Sardar Sarovar Dam was one of them. The site was inaugurated by Pundit Jawaharlal Nehru in 1961, and the

construction began under the Gujarat State Government. The dam was proposed to be built in the late 1940s. In the early stage of construction, there was already a dispute between the three states about the distribution and the control of water flowing through the Sardar Sarovar Project. The Supreme Court of India formed the Narmada Water Disputes Tribunal to resolve the existing fights over the water distribution, cost of resettling displaced people, and the height of the dam. After comprehensive organization, construction of the dam and canal system began in 1987. The dam was observed to be a multipurpose dam and would be of interest to four states of Rajasthan, Gujarat, Maharashtra, and Madhya Pradesh.

1. 4 Benefits of the Sardar Sarovar Dam Project

The Sardar Sarovar Dam Project (SSP) was proposed as a multipurpose dam and was intended to be beneficial to the four states. It was one of the largest dams constructed in India with the length of 1210m (3970feet), and the height of 163m. It has the third largest spillway discharge capacity in the world that is 87000 m³/ second. The waters of the Narmada river would flow into the sea being unused, and could be used for serving many dry towns, villages and districts of Gujarat. There was a tremendous amount of water flowing that could also serve the neighboring provinces. It was determined that after the successful completion of the project, the dam would provide water to 30 million people (including 9633 villages and 131 towns) that could be used for industrial and domestic purposes. The SSP would employ about one million people starting from the start to end of the project. There are many regions in Gujarat and Rajasthan that are out of electricity almost throughout the year. To overcome this issue, the powerhouse was installed

with a capacity of 1450MW, which would provide electricity to those areas in the peak hours of the day. The farmers would also get electricity to pump the water and water their farmlands. The SSP will provide water for irrigation and benefit 1.8 million hectares of land. The SSP will provide flood protection to about 200 villages in Gujarat, starting from Bharuch to Navsari. The SSP proposal also said that it would benefit the fish industry and improve the transportation system in all those drought-prone areas.  The proposal meant to be very beneficial to the rural and poor areas of those four states; however, the reality has been very atrocious and unfair.

1.5 Disadvantages of the Sardar Sarovar Dam Project

The state government and government of India did not live up to the standards of the World Bank or their policies they made. For the initial stage of construction there were disputes within the states, and this dispute was referred as a Narmada Water Disputes Tribunal, established under India's Interstate Water Disputes Act, 1956. In 1985, World Bank financed India with loan of US \$450 million as an aid for construction of the dam and canal. Later another application was made for US \$350 million for its completion. According to the World Bank, the project started with very little assessment of resettlement and rehabilitation, and environmental impact. People who lost their lands and were under submergence received very little compensation, which includes cash money. This cash money was barely sufficient to find a replacement land. The states of Madhya Pradesh and Maharashtra provided very little land for resettlement and did not recognize the encroacher's. The discrepancy in state policies conflicted with the

requirement of the World Bank credit and loan agreements. Neither did the World Bank, nor the people being displaced have an idea of the resettlement that was going to take place. The policy of resettlement was based on the 1979 Tribunal act, both by the SSP and World Bank. However, the tribunal act was just set for resolving the disputes with the states, not for the resettlement of the affected people. The project was started in a vague fashion, there were no proper numbers, facts, or attributes put in the limelight. The culture and heritage of those people being displaced has completely been lost and indistinct. Nevertheless, the World Bank was pressured from other countries for the negative exposure it faced due to the SSP. Just to keep up with the reputation of the World Bank and the Indian government, on March 30, 1993, the Indian government had requested to cancel remaining US \$170 million to be disbursed for the project. Therefore, the World Bank stepped out of the project and saved itself. <http://www.narmada.org/images/subm2004/mtgmedha.jpg> <http://www.narmada.org/images/khandwa2007/rally1s.jpg>In addition, farmers lost their land; huge cultivated land was removed and used for construction of the dam. Farmers and tribal people who made their living from that land had nothing to depend on now; they were without a home and employment. The Narmada Bachao Andolan is formed by the group of people that represent all the tribal people, and take action for their rights.. The Narmada Bachao Andolan had many conflicts with the government of India, its policies and actions. There were constant protests and hunger strikes for bringing an end to the construction of the dam. Even though, it never seemed like the SSP had decided on the height of the dam; SSP made changes to the plans of construction, and always tried to increase the height. The actual proposed <https://assignbuster.com/location-of-the-dam-environmental-sciences-essay/>

height was 121m for the dam which is now 163m in height. The ever going construction added more cost to the project. The political, economical, and environmental negative affects went hand in hand, and continued simultaneously.

1. 6 Rehabilitation and Resettlement Issues

The focus of the SSP had changed from its developments or benefits to its negative impacts, and how it will be a disaster for the million people who will get displaced in the process. After careful examination by the World Bank it was reviewed that serious problems will occur later in the project. It was also observed that crucial matters, like resettlement and environment impact were of secondary importance to the Government of India. http://www.narmada.org/images/subm2004/SUBMERGENCE_024.jpg <http://www.narmada.org/images/haripics/rally.pics/images/Musicians.jpg> Thousands of people dependent on the fishery on the west coast of Gujarat would suffer major loss. The dam will impound water to a full reservoir level of 455 feet and submerge approximately 37, 000 hectares of land in the three states of Gujarat, Maharashtra, and Madhya Pradesh. In 1957, International Labor Organization (ILO) passed convention 107 that stated ethnic or natives be provided by the land of quality at least equal to that of the land previously occupied by them which will be sufficient to satisfy their present and future needs. However, it was a great shock that before the United States or Canada, India had approved this convention. When the World Bank adopted this policy, it clearly stated that not only resettlement should be done, but the affected people should also be rehabilitated. Around 60 million tribal people live in India, who depends on land that they received from their

ancestors. They make their living by cultivation of the land, as agriculture is a major occupation in India. Most people affected by the SSP were tribal people; these people lived in forests and grazed their cattle. Not all the people were officially entitled to the land they lived on or grew their crops. Those were the lands their ancestors had lived on. These people were called encroachers. Madhya Pradesh and Maharashtra were very unfair as they stated that encroacher's were not to be resettled as farmers; they would be treated as landless laborers. However, Gujarat gave full benefits to the displaced people, but not many displaced to Gujarat. 140, 000 families are expected to be disturbed by the SSP while thousands of individuals living below the dam will be affected terrifically. The independent review by the World Bank examined that adequate drinking water will never reach drought prone areas, and the people will barely get the benefits of the irrigation system. The SSP will also effect on the environment, and cause huge environmental displacement. In India, many non-government organizations (NGOs) work and play a great role in the development of the country. Arch Vahini and Anand Niketan Ashram both gave an immense amount of work to help the displaced people for resettlement. As India is just a developing country, there are a large number of illiterate people. These NGOs work for the people, and help them to get their shares and equal opportunity. According to the government and the resettlement and rehabilitation (R&R) policy, people affected by the project were going to be reimbursed. Those families affected by the construction of the dam, reservoir, and canal system were known as PAFs, Project Affected Families. Every PAF was stated to be provided with two hectares of land, resettlement grant, a house-plot, Rs. 45000 for the construction of his house besides cash compensation for land

and/or house going under submergence. They were also proposed to be given community benefits of school, approach roads, wells for drinking water, primary health center, and Panchayat Ghar (local self-government). The ongoing schemes and benefits were predicted to be given to the PAFs by the State Government for their social and economic development. Most of the people resettled were adivasi (aboriginals); they are the people with least rights and benefits. Although the government has special schemes and benefits for the aboriginals not many of them are implemented and taken care of. The resettlement that occurred due to SSP increased the population of Gujarat. It is a leading state, with better government, and a little more employment opportunities. The state of Gujarat and Maharashtra had R&R sites, where project affected people can come and resettle. 4765 PAFs from Gujarat resettled in Gujarat within 110 R&R sites. 5520 PAFs from the state of Madhya Pradesh resettled in 108 R&R sites in Gujarat. Moreover, 747 PAFs of Maharashtra have been resettled in 18 R&R sites in Gujarat. Initially, there were no resettlement sites in Madhya Pradesh.

1. 7 Alternatives for rehabilitation and resettlement

Many new dams are under planning and construction in India. There needs to be proper scheduling and planning required for any successful project. Like the SSP took almost 60 years to finish the project from its start date, while its still incomplete. The resettlement and rehabilitation policies formed by the national and states government should be followed. The equal opportunity and compensation should be delivered to every affected citizen. Proper health benefits and previous standard of lifestyle should be maintained for the displaced people. It is very necessary to follow the

construction guideline and the estimated cost. The government should have asked for suggestions of the resettlement and taken into consideration. The World Bank states that even if there is a national interest, it does not require people to give up their homes and to resettle. There should have been tracking of sufficient data starting from the scratch if the project until its finish. The several issues and difficulties the project had were the hasty and wrong decisions made by the government. The inadequate amount of information about the project, its delivery and its completion, was enough to note that the project could be a failure. The government should learn lessons from other projects consider the assessed recommendations and take advantage of it. There is no point in getting projects assessed, but not learn anything from it. The state of Madhya Pradesh could have used conventional method to produce electricity instead of investing a huge amount of money in new technology. The money the government spent on technology could be used for the affected people and their resettlement. Management should have been for fulfilling the demand of displaced people by the government of India. The government not only ignored their resettlement and rehabilitation, they did not even consult the people for any issues they had. Project affected people were supported by the NGO's and other activists which lead to delays in the construction also. The World Bank was involved in the project from the beginning, and they should have taken major responsibility of the project. It meant for them to look after the displaced environment and resettled people. The R&R policy between the World Bank and government of India clearly stated that affected people should be compensated for their land and the lifestyle they had. The World Bank failed to comply with its policy and was not able to predict the outcome of the project. The World Bank needed

<https://assignbuster.com/location-of-the-dam-environmental-sciences-essay/>

to be firm with the credit and loan agreement for the successful outcomes. People should have been reimbursed with at least a minimum land for agriculture, a shelter, and other basic necessities to live a life. Millions of people live below the poverty line in India; this was a good chance for the government to enhance the lifestyle of those people affected. However, India is a developing country, there is lots of corruption there. People in need barely get their shares and rights for survival. The lifestyle of these people had reduced by 60 percent compared to their original standard. To be effective and efficient in the progress of the country, the government of India should consider the needs of common people. The SSP should have considered the resettlement and rehabilitation of the affected people, and the environment impacts to make the project successful. The World Bank should have taken charge of the quality control and encouraged to give minimum compensation to the affected people. [http://3. bp. blogspot. com/_EH7OLLQBtRc/TJu9xnEzyzI/AAAAAAAAAftg/7kINj8xqx2U/s1600/wink_will_ett_elderlyrabari. jpg](http://3.bp.blogspot.com/_EH7OLLQBtRc/TJu9xnEzyzI/AAAAAAAAAftg/7kINj8xqx2U/s1600/wink_will_ett_elderlyrabari.jpg) [http://3. bp. blogspot. com/-urolzJYRyWE/TunHOWdaZzl/AAAAAAAAABgQ/Jo2r2u6ey4Y/s1600/Untitled. jpg](http://3.bp.blogspot.com/-urolzJYRyWE/TunHOWdaZzl/AAAAAAAAABgQ/Jo2r2u6ey4Y/s1600/Untitled.jpg)The government should have been well aware of the fact that India is a democratic country should have their administration in the favor of the people. On the other hand, this project was based on the interest of bringing in new technology and making a mark on an international level. The project should have been approved by the Planning Commission, and the Ministry of environment and forests before the project started. Affected people should have received the information about the project and the resettlement prior to them being displaced. The World Bank should have reviewed the progress of it from the very beginning and gather information from the NGOs. There <https://assignbuster.com/location-of-the-dam-environmental-sciences-essay/>

should have been the common policy of resettlement in all four states, and all affected people should have been treated equally. The government could have avoided so many conflicts by treating the tribal, the encroachers, and the farmers equally. The states should have had regular meeting about the SSP and its progress, which should have included reviewing the R&R policy and the status of affected people. There should have been accurate and honest communication between the government of the four states, the government of India, the World Bank, and the affected people. To summarize the alternatives of resettlement and rehabilitation, here is what could have been done by the government of India and the four states. First, should have followed the panning and scheduling method, followed only the proposed design and plans of the dam. Second, If modifications were required then they could use properly planned strategy to overcome issues. Finally, they should have implemented all the policies and followed the credit and loan agreements. http://www.wbdg.org/images/pm_1.gif

1. 8 Conclusion

The construction of this project is non non-feasible due to the constant prolongation since the proposal of the project. The terrific impacts the Sardar Sarovar Project had on the environment, and the people living in those areas was incredible. The Narmada river is considered as a lifeline for the State of Gujarat, but the development of Sardar Sarovar dam is totally unethical.