



SARDAR SAROVAR DAM IN INDIA: STUDY OF DEVELOPMENT INDUCED DISPLACEMENT

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ABSTRACT

The Sardar Sarovar Dam, located on the Narmada River in Gujarat, India, is a gravity dam. This dam is the largest one in the Narmada Valley Project, which consists of several large irrigation as well as hydroelectric multi-purpose dams. The proposal began in 1979 as part of a larger development measures to expand irrigation as well as generate hydropower. The dam's 60 years history makes it one of the world's most divisive constructions. Many of the benefits attributed to the dams have been discovered to be overblown. The amount of water accessible for irrigation and domestic use was overstated by 25%. The main canal system in Gujarat and Rajasthan was designed based on overly optimistic transportation efficiency assumptions, resulting in 23.3 percent less irrigated land than anticipated. The researchers have discussed the impact of displacements on people leaving in rural areas, highlighting in particular the loss of land property. Such displacement leading them away from their natural habitats has many socio-economic impacts.

Keywords: Sardar Sarovar dam, Narmada River, hydroelectric multi-purpose dams, Irrigation projects, Displacement.

INTRODUCTION

Displacement, as a result of large developmental projects has surely resulted in a transfer of resources from the poor class to the more privileged. In particular in India, mega-dams are known to be the major cause for creation of victims of development - especially the indigenous members and farmers who barely participate in development achievements.(Goswami, 2011) It can be said that bigger the developmental project, greater is the impact on displacement. Further the federal structure with a stronger centre also plays a role in terms of execution of such large projects in India.(Elmqvist et al., 2013) This centralization has a penchant for big landowners, rich peasants, engineers, bureaucrats and politicians.

After a colonial-era compensation scheme, farmers receive and use compensation money in a way that does not usually help them rebuild their budgets. These mega projects were considered a symbol of modern India, though all of this was very helpful to India's development. However, these megaprojects have also resulted in the deportation of millions of people from their ancestral lands. (Tewari, M., Godfrey. N., 2014)Inadequate planning and implementation of various resettlement and rehabilitation measures has aggravated the lives of IDPs. (Nagendra et al., 2013)

Sardar Sarovar Dam Project

The Sardar Sarovar Dam is an example of a development project that has led to massive displacement. In addition, the project lays the foundations for a future change in the environment by addressing the problem of relocation and repatriation of internally displaced persons and the general lack of consideration of the potential impact of the project on the environment. Similarly, the project creates inequalities between aid recipients and those who bear the bulk of development costs.(Padam, 2010)

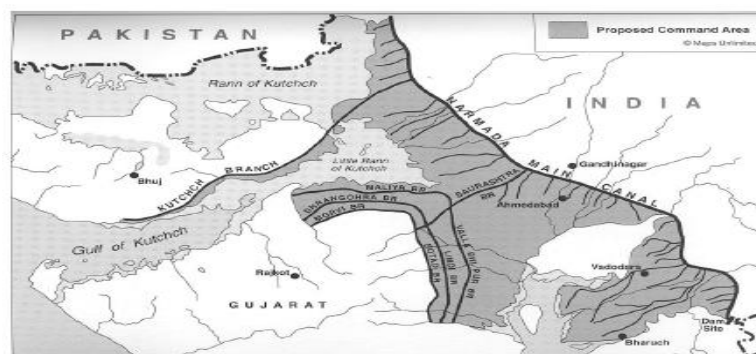


Figure 1: Map of the Narmada canals network

This dam was a long thought project that was there on paper for almost seven decades, even before the independence the project of building a dam on the River Narmada was there and can be traced in the papers and records archives in the national records. (Vedavathy, 2010) These proposals came into light of action in the mid-eighties, and finally the Sardar Sarovar Dam Project finally commenced in 1987. It took almost thirty years to complete and a huge amount of loss, like the challenge of displacement, submerging of more fertile land than it will provide irrigation for and only 70 percent of the electricity production from what it was thought it will be producing when the work was started.

The dam is a multipurpose dam built with the following objectives:

- Provide 1 million acre-feet of domestic and industrial water supply, potentially reaching 30 million people. The Narmada Canal, a large network of canals that transports water from the reservoir to farmlands in Gujarat and Rajasthan, has been included in the SSP.
- Irrigate 1.8 million hectares of cropland, which could feed a population of 20 million people.
- Two hydroelectric power stations will generate 1500 MW. This was to be used as peaking-power to stabilize grid loads in Madhya Pradesh, Maharashtra, and Gujarat.
- Provide flood protection for 30,000 hectares of lower riverine reaches. The SSP was jointly funded by the states of Gujarat, Rajasthan, Maharashtra, Madhya Pradesh, Government of



India (GoI), private bonds, and the World Bank (WB). The SSP benefitted the four states mentioned above. Because of the large area inundated to create the reservoir, the SSP adversely affected indigenous people: the Adivasis, in the upstream state of Madhya Pradesh. The inundated area is shown by thick black patch in figure 1. The project also affected the fishermen in the downstream state of Gujarat apart from having serious impacts on the flora and fauna of the adjoining areas.

Following the independent review of the World Bank in the year 1992 by Bradford Morse and Thomas Berger, the “Sardar Sarovar Dam project” will flood approximately 37,000 hectare of land under the reservoir and approximately 80,000 hectare of developing canal-Channels once completed. (Baird, 2008) It will dispense with at least 100,000 people from 245 settlements. Irrigation canals as well as systems will affect an estimated 140,000 farmers, and downstream fishery will affect an unspecified number. It was after these results that came in the global pictures and other humanitarian concerns like the quality of life the displaced will get and the compensation the government was very less, that the World Bank took away the assistance in 1994 to Indian Government and the Govt. of Gujrat specially. Although it did give their assistance to the Dams constructed latter, in the 2013. (Sebby & Osborne, 2010)

To bring out the idea of our government during the early stages of the construction and comparing to later while it was on the verge of completion, will be only appropriate in the opinion of Arundhati Roy.

The justification given by the Government to complete the Dam was that will help almost 40 million people with fresh drinking water and water for irrigation via canals to the drought prone areas of the central-western Indian Plateau. (Ray, 2000) Although this demographics and economic situation of the states along the Narmada have varied throughout the years, their principal concerns concerning the sites and sizes of dams as well as waterworks on the river have stayed unchanged:

Table 1: States and their concerns regarding dams

State	Concerns
Gujarat	Primary: secure irrigation and drinking water to compensate for low rainfall Secondary: hydroelectric supply
Madhya Pradesh	Primary: limit amount of water others are allowed to take Secondary: limit displacement of villages by downstream dam construction
Maharashtra	Primary: secure hydroelectricity for its energy-short industrial districts Secondary: limit displacement of villages by downstream dam construction
Rajasthan	Secure irrigation waters for its dry southwestern districts

Sardar Sarovar Dam is not a case wherein all the victims were fully compensated. Further the different social groups also are not having equal share in the costs and the benefits of the project.



The most affected social groups are disproportionately carrying the burdens through loss of land and culture.

In addition to the dam, more than 41,000 families (more than 200,000 people) were displaced in the three states of Gujarat, Maharashtra and Madhya Pradesh. More than 56% of the people affected by the dam are Adivasis. For several reasons, the most important reason is the struggle of the people affected by the Narmada Bachao Andolan (NBA) projects, which is undoubtedly the best policy of resettlement and restoration in the history of India. But there is too much slippage between the cup and the lips.

Resettled people, mostly Adivasis, face many serious problems. The land available to them is not cultivable or saves water in hundreds of huts. More people do not have enough land. Many others received fragmented or occupied land. Most places do not have enough clean water, sanitation or sanitation. These sites have no pasture, feed or firewood facilities. People have been allocated lands away from their kin in different states as well, against the normal practice in Adivasis. After a long and proactive involvement of many factors the Government has made a lot of progress in upgrading their standards but even on the date of its inaugurations there were more than 6000 families, whose property were utilized in the process but weren't given the promised opportunity of jobs and land.

Development induced Displacement

Development induced displacement occurs when people are compelled to leave their homes as a result of development initiatives such as dam construction, industry development, road building, and airport building. Understanding societal vulnerability could be the first step toward reducing vulnerability to the effects of a large-scale development-induced displacement and relocation event. (Ray, 2000)

The effects of “development induced displacement and resettlement” is devastating especially for the indigenous people who value land as a source of identity and way of life. The loss of access to land including common property resources means immediate and serious outcome for food insecurity and increased poverty. It was also observed that people displaced by development projects were affected in terms of yield produced from their farming activities. Most of those farmers who owned bigger plots of land became medium; the medium farmers land became small. (Cohen & Bradley, 2010) Farmers that owned small and marginal plots of land, became landless, hence making such households to be more marginalized than before the displacement.

Displacement as a consequence of development operations frequently leads to the loss of livelihood sources, such as the acquiring non-private resources, such as forest land. Access to natural resources



like land & common property resources from which they previously derived their livelihood sources like food and income could be affected. As a result, losing access to those livelihood resources generally makes such marginalized populations worse off economically as well as socially.

LITERATURE REVIEW

(Sahoo et al., 2014) analyzed that the "Sardar Sarovar Dam", located on the Narmada River in Gujarat, India, is a gravity dam. This is the largest dam in the "Narmada Valley Project", which consists of many big irrigation as well as hydroelectric multi-purpose dams. The project began in 1979 as part of a larger development plan to expand irrigation and generate hydropower. The Gujarat and Madhya Pradesh state governments estimate that the Sardar Sarovar Project (SSP) as well as the Narmada Sagar Project (NSP) will irrigate 1.9 million ha & 0.14 million hectares of land, and create 1,450 MW and 1,000 MW of power respectively. The SSP's hydroelectric power would have been split among Gujarat, Maharashtra, and Madhya Pradesh, while the irrigation advantages will go to Gujarat and Rajasthan. It acknowledged the complexities inherent with the Sardar Sarovar Valley. The concerns arise as a result of the dam fight and the emergence of a paradigm that promises material wealth in a chimerical way. Individuals must emphasize the water difficulties in Gujarat's drought-prone regions. The Indian government has provided its approval for the SSP in Gujarat as well as the NSP in Madhya Pradesh to be built.

(Wong, 2013) studied large dams, a tool for development in the past century, have changed the lives of millions, altered nations and had widespread environmental, economic and social effects. With the increasing amount of data available, the effects of dams can be assessed with greater accuracy and validity. This study examines the evaluation of the economic, environmental and social effects of dams, and lessons learned from previous dams. It then emphasizes on cost analysis as a pre-project decision-making tool for analyzing the prospective gains and disadvantages of building a dam, as well as a framework for analyzing dams that have already been built. It examines the fundamental assumptions that must be made in order to do a credible cost-benefit analysis, as well as the method's inherent limits. The Sardar Sarovar dam is used as a case study for how cost analysis is used and abused in decision-making, interstate politics, propaganda, as well as activism. It also shows how difficult it is to divide expenses and rewards fairly at the national, state, as well as grassroots levels.

(McDonald-wilmsen & Webber, 2010) observed the World Commission on Dams gave a comprehensive analysis of the long-term effects of dam construction. Consequently, little has changed dramatically in terms of resettlement policies since the WCD. In fact, significant agencies'



requirements, such as the Asian Development Bank's, have been decreased and reduced in comparison to previous regulations. A 'managerialist' perspective to planning, in which solutions were sought internally and subservient to the economics that justify the project's existence, suffocates dam-induced development and displacement. The goal of successful resettlement is to eliminate poverty and allow displaced individuals to benefit from the operation. This is an ambitious goal rarely attained in the realm of dam-induced relocation. Furthermore, in other areas of resettlement, including refugee studies and climate change adaptation, such an objective is considered a minimum level.

(Maitra, 2009) explored the dynamics of the phenomena of Development Induced Displacement, as well as the theoretical, legislative, and policy concerns that have hampered India's ability to implement infrastructure development smoothly. Modern India has become entangled in a battle between the state's macro-development objectives and the unfavorable implications for the people directly affected by the project. Despite the fact that the demands of time and the logic of liberalization policy need the continual articulation of development initiatives, it is also critical to overcome the disempowering impacts of displacement on its people. Despite the recent government effort, formal policy declarations and regulations controlling compensation & resettlement issues have been found inadequate. The study asserts that the state must strike a balance between its efforts to promote development and those to make it sustained, just, and equitable. The study focuses on the issues that arise in the allocation of compensation and resettlement in these kinds of projects. Dam-induced displacement incidents at the “Sardar Sarovar Project” in the “Narmada River Valley Project” in Gujarat, India, are emphasized as examples.

(Oommen, 2006) traced the evolution of several anti-dam movements in independent India, with a focus on the well-known “Narmada Bachao Andolan” while investigations on anti-displacement movements have created a considerable amount of knowledge, neither civil society activists nor policymakers find them interesting. It is proposed that in order to make sociology more relevant, we should combine sociology of movements as well as policies with sociology of movement and policies.

(Colchester & Peoples, 2000) assessed the extent to which Indigenous Peoples and Ethnic Minorities have gained or lost from large dam projects. Like many previous studies on the theme, it finds that indeed large dams have had very serious impacts on these peoples' lives, livelihoods, cultures and spiritual existence. Due to structural inequities, cultural dissonance, pervasive and institutional racism and discrimination, and political marginalization, Indigenous Peoples and



Ethnic Minorities have suffered disproportionately from the negative impacts of large dams, while often being among those who have been excluded from sharing the benefits. On paper, measures to avoid or mitigate these negative impacts have been progressively improved over the past 50 years as international law and the policies of developers have been revised in response to growing voices of dissent. As this study shows, however, despite these advances and even where these policies are meant to apply, large dams continue to have serious, even devastating, effects on Indigenous Peoples and Ethnic Minorities. In large part this is because dam-building in particular, and development programmes in general, are driven by powerful interests and visions, which provide neither the incentives nor the time for developers to apply these new standards.

CONCLUSION

The Sardar Sarovar Dam is an example of a development project that is generating huge environmental displacement both directly and indirectly. This displacement isn't just happening now. Rather, the dam projects and its related relocation and restoration project's consequences are increasing people's economic vulnerability, paving the way for more relocation. Those who must bear the majority of the development costs in this project were neither properly consulted, nor compensated in ways acceptable to them. Moreover, the Sardar Sarovar Dam is development on the backs of the poor, as the people being displaced are amongst India's most vulnerable and disadvantaged social groups. For these reasons, the Sardar Sarovar Dam project cannot be considered to be ethical development.

As a result, the urgent need is for the formulation of a comprehensive compensation as well as rehabilitation strategy that answers the real problems of the displaced population. The adoption of an inclusive strategy will best benefit sustainable development by establishing a more level playing field.

REFERENCES

- Baird, R. (2008). *The Impact of Climate Change on Minorities and Indigenous Peoples*.
- Cohen, R., & Bradley, M. (2010). *Disasters and Displacement : Gaps * in Protection*.
1(February), 1–35.
- Colchester, M., & Peoples, F. (2000). *Dams , Indigenous Peoples and Ethnic Minorities*.
November.
- Elmqvist, T., Zipperer, W. C., & Gii, B. (2013). *URBANIZATION , HABITAT LOSS AND BIODIVERSITY DECLINE Solution pathways to break the cycle*. 139–152.
- Goswami, A. (2011). *Land Acquisition , Rehabilitation and Resettlement : Law and Politics*.
- Maitra, S. (2009). *Development Induced Displacement : Issues of Compensation and Resettlement*



- *Experiences from the Narmada Valley and Sardar Sarovar Project*. 10, 191–211.
- Mcdonald-wilmsen, B., & Webber, M. (2010). *Dams and Displacement : Raising the Standards and Broadening the Research Dams and Displacement : Raising the Standards and Broadening the Research Agenda*. June.
- Nagendra, H., Sudhira, H. S., Katti, M., & Schewenius, M. (2013). *Sub-regional Assessment of India : Effects of Urbanization on Land Use , Biodiversity and Ecosystem Services*. 65–74. <https://doi.org/10.1007/978-94-007-7088-1>
- Oommen, T. K. (2006). *Coping with Development Pathologies : Resistance to Displacement*. 55(August), 267–280.
- Padam, S. (2010). *URBANIZATION AND URBAN TRANSPORT IN INDIA :*
- Ray, P. (2000). *Development Induced Displacement in India*. 2(1), 33–40.
- Sahoo, T., Prakash, U., & Sahoo, M. M. (2014). *Sardar Sarovar Dam Controversy- A Case Study*. 6(9), 887–892.
- Sebby, K., & Osborne, D. (2010). *DigitalCommons @ University of Nebraska - Lincoln The Green Revolution of the 1960 ' s and Its Impact on Small Farmers in India Under the Supervision of Raymond Hames*.
- Tewari, M., Godfrey. N., et al. (2014). *Better Cities , Better Growth : India ' s Urban Opportunity*.
- Vedavathy, r. S. (2010). *Displaced and Marginalised*. September.
- Wong, E. (2013). “ *Damning The Dams ”: A Study of Cost Benefit Analysis In Large Dams Through The Lens of India ' s Sardar Sarovar Project*.