

DEFORESTATION AS THE RESULT OF NARMADA VALLEY PROJECT - DRIVING OUT OF RARE SPECIES OF ANIMALS

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ABSTRACT

The Narmada valley project is considered to be one of the largest dam in the world, as not only this dam will be constructed but also other small, medium and large scale dams will be constructed along with this dam. As a result, the construction process has also covered and occupied the large scale land in three states of India, which are named as, Gujrat, Maharashtra, and Madhya Pradesh. The Narmada valley project has not only consumed the large scale agricultural land in the forest, but it has also created the negative impact on the wild life. According to the experts, the construction of two large scale dams have been constructed on the Narmada river in the state of Madhya Pradesh and as a result it has also tried to abolish the habitats of wildlife and leads towards the death of some rare species of animals at local level, in the perspective of the construction of large scale dams , most of the biologists have been warned regarding the finishing of major species due to deforestation and due to the construction of dam , the large scale area will be vanished under the water which will come through the flood.

INTRODUCTION

The two large scale dams named as Omkarehswar and Narmada Sagar have also dislocate around 160,000 people from their native land and it has also submerged the area of 100,000 hectares of the agriculture and forest land in the Indian States. These two dams constitute the major part of the huge Narmada River Valley project, which will also comprised of 30 large dams, 135 medium and 3000 small dams. It has been noticed that only the large scale dam named as Narmada Sagar project has immersed around 40,000 hectares of major wildlife habitat. Thus the experts named as Asha Rajvanshi and V.B. Mathur from the Wild life Institute of India have stated that the leftovers of the forests after the flooding of that specific area, these leftovers are of poor quality and they have not provided the

maximum support to the huge species that have been dislocated due to the highest leveling of water in that specific location and are (Kumar, 1995).

It has been observed that the report which has been presented by the two experts from the wild life institute of India, and their report was commissioned by Narmada Valley Development Authority, the investigator has reported that the specific area which came under the construction area of Narmada Sagar Dam, it was flooded and possess in itself the diverse types of plants which have been estimated as 369. Among these unique and diverse species of plants, 31 types of the plants are considered to be uncommon and they can easily become destroyed at local level. Rest it has been observed that most of the types of these plants have been used by the common people for traditional usage, which have been notified as 175 types of

these plants. Thus it has been observed that according to the survey conducted by the investigator, there are 53 types of the plants which have been used in different medicines and they have not been enlisted in the record. Although these types of the plants have not been vanished or disappeared but the researcher stated that there is huge risk the old information in the perspective of using these plants in the medicines will be lost because most of the people will leave the area and they will be dislocated.

Whereas, it has been noted that in the area which is related to the construction of the dam named as Omkareshwar, there have been the 217 types of the plants, and more than 60% of these plants have been considered to be very narrowly distributed, and it has caused them to very weak for the extermination. Other than the various types of the plants, the area which is the major forest surrounded by these two dams, have considered to harbor 30 different types of mammals, which also includes the dangerous species of animals named as, tiger, leopards, ratel, fishing cat, wolf, and sloth bear. The predators which includes the tigers and leopards have been enforced to cross the major land of agriculture for the purpose of searching their victims and also to find the new territories for their living. This issue has been considered as the major reason of conflict between the predators and the related local people of those areas (John A. Dixon, 2000).

MAMMALS

According to the same report presented by the two experts, it has been noticed that as the water due to the food rises from its normal level, the environments or habitats of two mammalian fish-hunters, which includes the fishing cat and the otter have been vanished. It has further been observed that the fishing cat is the habitual of living on the islands which are kitti islands and they will be drowned in the water. This rising of water can also create the negative impact on these types of mammals and it can also be the cause of its death at

local level. Further it has been noticed that four types of the animals which includes the freshwater mugger crocodile and also the fresh water turtle, can feel themselves as unsafe and also they can find themselves as without home and as the water can cover and reached the shorelines.

As it has been observed that the birds can be considered as having the nature of mobility, because they can move from one place to another in search of food and most of the birds can lose their feeding and the sites where their nests have been placed. It has been further noticed that the due to construction of Narmada dam, there are more than 209 birds residing in the forests or in the stretch of river, and they have been vanished from their locality and at least 130 types of the birds are living in that specific area have been flooded due the construction of Omkareshwar dam. Further, it has been observed that those birds which have a habit of hitting the hardest areas, are considered to be those species who have a nature of more specific habit of feeding, these are the birds which eat fruits, and some of them eat insects and called as insectivores, and some of the types can also be defined as the well explained and maintained storerooms, in which these birds can feed themselves. Whereas it has also been noticed that in the attached forests, there is seen the strong competition from both sides of the birds in the form of territories which are more well maintained and established. In order to make balance for the losses which have been done, these biologists have been recommended that there is need to develop three new areas which have been protected, which can be considered as the new residing place for the animal, and birds which have been dislocated from their new areas. Further, these biologists have also give the proposal, regarding the confined breeding program for the river turtles and also the otters, these types of new actions can be helpful in resettlements on the other rivers (Atlas, 2011).

AFFORESTATION

The construction of Narmada dam project has not only displaced the people from their native land but also it has affected the agricultural lands, forests and the wildlife as well. The deforestation has caused major the death most wild life creatures and most of the animals were unable find the forest and their species have been affected and faced death at local level. In the perspective of above mentioned scenario, the concerned authorities related to the project were not be able to recognize the suitable place for the land which can be considered as the compensatory land for the reforestation and it has also been proposed to consider the land for afforestation as double against the forest which have been destructed, and the land for new forest is considered to be 90,000 hectares. Thus the suggestions for the development of forest have been seen as most detailed and reasonable.

FAUNA

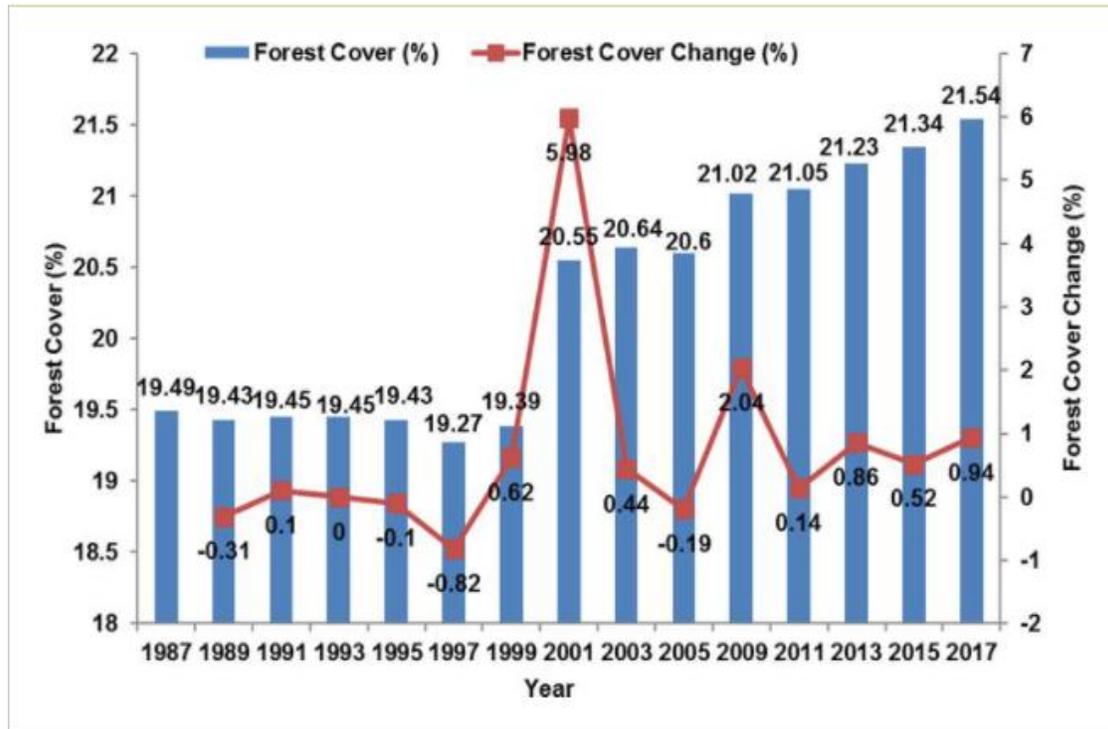
IT has been observed that the major area of the forest has been suffered and affected due to the construction of Narmada Sagar project, these forests consists of those areas which have been concealed in themselves the rich culture of genetic resources including the wildlife as well. In the perspective of deforestation, loss of wildlife, and also the losing of Flora and Fauna. The initial study was done by the company related to the environment which is named as the Environmental planning and coordination Organization, from the area of Bhopal, and also it has been observed that the major observations were done by the World bank which is clearly indicating to mention in itself the current status and the status after the implementation of the project. The major concern behind this status report is to determine the loss of biological variety and to know the exact status that either the wildlife can settle and retain

themselves, after the destruction of their local habitat and living places which have been considered to be founded on the Southern side and its vicinity is also surrounded by the agricultural fields (simCrook, 2000).

There are many studies which have been considered as more necessary to analyze the exact situation of the major loss of flora and fauna including the appropriate habitat for the wild life which is remaining and try to sustain themselves. The census conducted by the wildlife regarding the specific area took at least two to three years for the completion, it has been conducted by ZSI, and the survey also includes the protected forecasts, reserves for the wildlife and also the national parks. The survey also covered the area which will have more capacity to give refuge to the wildlife which have been dislocated from their land. These research studies have been considered as most significant in the perspective of Narmada Sagar Project. These type of research studies have been started by the organizations named as BSI and ZSI and these studies have been conducted by the organizations upon the request of authorities related to the project and it was done only during the years of 1989. Afterwards no study has not been conducted by any organization.

Thus it has been observed that under these type of situations, it is difficult to evaluate the impact of the loss of the habitation of the wildlife and also the entire loss of biological changes including the genetic assets. Further, it has been noticed that the authorities have developed the supposition that the forests which have been destructed do not hold the genetic assets and these were not considered to be as important, then in that case the loss of forests can also be resulted into the creation major negative and environmental loss by causing more environmental population and the major loss has been estimated about Rupees seven thousand crores (Atlas, 2011).

Status of Forest Cover in India from 1987-2017



COMMUNITIES AND ECOLOGICAL SENSITIVITIES

The environment can provide more benefit to the communities which are living in its surroundings, but due to the major interference of the state and related authorities, there is huge destruction that has been observed in the water management methods which are old and sustainable, and the related communities with the local and old knowledge have been considered to be more complex and they are actually more habitual of the micro-ecology in the perspective of their related area. Thus the social situation of the minor or dim power is considered to be ecologically more complex and also the protective, as it has been noticed that the small community cannot likely to make large scale new interventions within the environment. It has been noticed that if the environmental problems can be left to the disposal of the community, in which the government cannot do more interference, then the local community would prefer to maintain the

environment by the original lifestyle, which is non-industrialist. Whereas some experts also highlighted the major issues of holding the poor towards the impossibly high standards of the ecology. The major suppositions can also be resulted into the autonomy of the local people over the natural resources and this has also resulted into the deforestation. According to another experts, that various ecological problem can also face the issue of tank irrigation by following the colonial period which can prevail for the long time afterwards.

Thus it has been observed that there are certain other reasons which are considered to be important which have been leads towards the environmental chaos, and all this has been done due to the interference of the outside authorities. The old local communities in the Narmada valley prefer to work on saving the natural resources, and the natural environment. But the new methods of irrigation have been considered as more sensitive from the ecological point of view, but it has destroyed the natural ecological system in the valley. While the new scientific creations during the 19th

century also developed the new ways for the renewal and reconstruction of the natural world (Atlas, 2011).

DEFORESTATION AND ENVIRONMENTAL CHALLENGE

It has been observed that the campaign or movement regarding the environment can be considered as one of the major hindrance for the Narmada Sagar Project. There has been reflecting the major difficulties in the environmental elements of the Narmada Sagar Project and due to having the two major reasons, for the independent review done by the World Bank through hiring of the new party. The experts and critiques are of the view, that the construction of the dam has created the large scale negative effects on the environment and the area which have been immersed and also the downward streaming in the areas of canal, ultimately these canal has created the major environmental issue within the commanding areas. The reservoir can also be immersed in the area which is unspoiled forest and also it has destruct the habitation of the wildlife, whereas the aquatic life which is living in the Narmada Dam, can also destruct the aquatic life through the downward streaming of the dam. Whereas the commanding area has also been suffered due to major water categorization and salinization problems. The independent review done by the world bank through world bank and it has concluded the same issues of environmental problems, deforestation, diminishing of aquatic and wildlife and also the concerned project planners had not included the environmental impact evaluation within the assessment. While it has been observed that it is not justice to evaluate the major project in India through the environmental rules and certain criteria which is related to the developed countries (Kumar, 1995).

The independent review conducted by the World Bank have also conducted the major debate because the project planners have not evaluated the major impact on the downward streaming of the environment within the Narmada River. The major

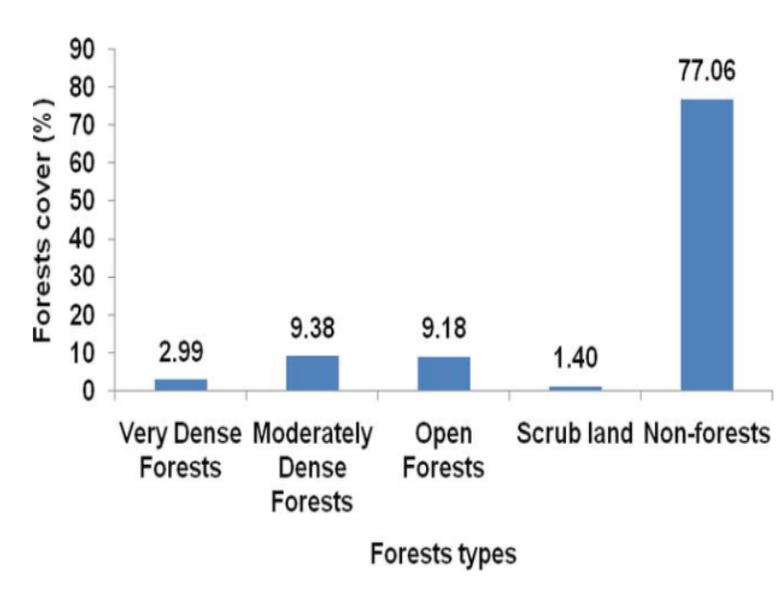
effect on the fish that were there in the downward streaming of the Narmada river can be considered as the major point of debate, thus most of the critiques have conducted the debate the major aquatic population in the river in the fresh waters, there is the fish name as his has been badly affected due to the reduction in the water flow within the river. While the Narmada and SSP project planners have also made the debate that the effect on the aquatic life specifically fish cannot affect the economy, as it is also not providing the fresh water source for the hilsa living in the Narmada valley. Thus there cannot be much planning has been done regarding the fisheries and related farming. It has been observed that the any type of fish in the Narmada River has been considered to be more than compensation via the development of new emerging opportunities in the form of fish farming within the commanding areas of the canal and also within the reservoir. These type of cultural fisheries can also be founded on the artificial spread of the commercial fisheries within the hatcheries and is will not be founded on the seeds or eggs that are available in the section of river. Thus the independent review also declared that the downward stream has caused the environmental effects and it will take many years to clear itself. While the other experts have declared that the major environmental effects has caused the negative affect on the community at large scale. Whereas the SSP planners also give more importance on the modernization and also the industrialization regarding the future development of the environment, aquatic life and also the entire new development. Thus after the careful analysis from the side of the analysts, it has been declared that SSP and Narmada valley project is considered to be one of the most beneficial project, as it is not only fulfill the needs of the local community but also it can help the issue of drinking water and also other needs (Tarique, 2012).

It will supplies hydro to the new industries, it will be helpful in reducing the salination and desertification of the land , while the water can fulfill the needs of the forest by the expansion of the green trees and also the forest issues, this will also

be helpful in recharging the underground water which is founded at the base , this benefit of the river water is only indicating towards the balancing of the new development with that of the protection towards the environment, preserving the natural resources and also lead towards the sustainability. The critics of the environment has been explained and interpreted by the concerned project planners

as militant anti-growth eco-fundamentalism. The experts have been indicating towards the large scale projects which is also implying that the large scale projects have been late by posing the name of environment. Further the project planners also conducted the major debate that the project has been considered as most important and significant for making the improvement in the environment.

Forest Cover % of India for the year 2017.



Another research has been done by the WDC regarding the environment in the perspective of the Narmada river valley project, the WCD have find the major cause behind the construction of large scale dams have also be the source of major destruction from the environmental point of view, it also lead towards the permanent loss of the forests, the habitation of wildlife, aquatic biodiversity or loss of aquatic life and resulted in the negativity of the eco system. Just like the lakes which are natural, the water reservoir also release the greenhouse gases, but still there is more need to measure the impacts of the large scale dam on the global warming. Thus due to the construction of large scale dam, more than eighty million people have been dislocated and most of the people who were living in the down streams has also lost their livelihood. Thus it has

been noticed that the environmental and social cost have been divided in an inappropriate amount through the other poor and weak groups (John A. Dixon, 2000).

Under the Narmada Sagar project, whether it has been supported by the bank or not but it can lead towards the flooding of the 200,000 hectares of the agricultural or the cultivated land but according to some of the critiques it has been recorded as 350,000 hectares. As ti has been recorded that due to the construction of the two mega projects they will flood around 43,000 hectares of the cultivated land and more around 51000 hectares of the land which comes under the forest, much of the land has already been recorded as uncovered. According the statistics, the construction of Narmada Sagar has

immersed 40,332 hectares of the forest land that have been immersed, it has been estimated that out of this around 10,996 hectares of the land comes under the forest which possessed no trees. While the remaining part which is estimated as 29,336 hectares of the land comes under the mixed forest, while is remaining land is badly uncovered. Thus it has been observed that around 11,000 hectares of the land which comes under the immersing land through the Sardar Sarovar is badly destructed land. The bank also presents its concerns with the deforestation, by flooding the land of the forests can be the reason of many issues, but it cannot be considered as the most important factor which is held responsible for vanishing of the trees within the India. Thus it has been observed that the most of the forests have been seen as destructed or cleared, due to various other reasons, it can also involve the requirement for the growth of the population regarding the fodder for the cattle or regarding the fueling of the woods. It has been noticed that the forests of the Narmada Valley cannot be able to survive for most of the years because it needs proper actions which can fulfill the major reasons of the deforestation and also the destruction of the land (Atlas, 2011).

Whereas, under the project of Narmada Sagar Project, the bank has provided its support which have been designed to diminish the degradation of the environment. The Government of India has developed one specific clause that the environmental clearance regarding the project, the states can also commit to provide the land for afforestation, which can be considered as the compensation against the forest land which have been immersed, which is also equal to the immersed area, or if the afforestation has to be done, the land will be almost the double in case of destructed land. Thus the Government of India has also closely looking after the measures for the afforestation which have been taken by the state Governments. In the context of these measures the bank has been ready to provide the financial support, and moreover in case of replantation, its sustainability of the forest can also be done, in case, if it can provide the major

benefit to the local people and the related population as well. While in the perspective of the Narmada Sagar project, the State Government of Madhya Pradesh also developed the plan for doing plantation at major level as a major compensation in the areas which are watershed in the reservoirs, while the major preference have also been given to the watersheds for the conservation of the soil.

The construction of Narmada Sagar project is one of the most largest construction in the world, and this large scale project can also be affected the lives of many people and they have been displaced from their native land, while this large scale construction has also affect the lands, as agriculture, forest land due to the flooding of these areas the life of many plants and animals have also been affected as the forest contain the rare and uncommon types of plants and animals. Most of the research studies and surveys have been done but still they were unable to find any clue regarding the unique types of plants and animals have been lost in the submergence Areas. These species have been uncommon and dangerous but they cannot be considered as unique, but the State governments have paid more attention to save the most of them. Although there have not been detailed research work done in the perspective of Narmada Sagar as it is in the process but more detailed research work has been done through the hiring of the another party, which will provide the details about the inventory regarding the wildlife, but it will also develop the plan for the cleaning of the adjoined areas with the wildlife. These type of the research work has been made delay because of the construction of the Sardar Sarovar dam and the bank has also taken this step with the approval of concerned authorities.

CONSEQUENCES OF DEFORESTATION

The construction of Narmada Valley Dam has caused major destruction at large scale by displacing many people, the immersing of agricultural and forestation into the construction area. The social results of the deforestation have been counted as many in

numbers, for the native communities the construction of the dam leads towards the implementation of the new civilization, which means the old life of the local people have been going to be changed and it can cause the major breaking of the social institutions. It has been observed that the rights of the people towards the resources of forests have been ignored in a very bad manner, due to this ignorance the communities and the people living in the surroundings of the forests including the various other resources which are natural have also lost their livelihood. Secondly, because of the deforestation, the sheds of water which were once give the benefit of the drinking water have become the result of major changes in the flow of water. While in the economic conditions, the hot forests which have been destructed every year represent major loss into the forest which has been counted as the loss in billions. While the other major result due to the deforestation is the losing of many types of plants and animals or the loss of biodiversity, which also leads towards the global warming which also cause the other negative results as creating the situation of drought, failures of the crops, the ice caps starting to melt and it also leads towards the dislocation of large scale vegetation system.

The deforestation in the submerged area has also left the major and negative impact on the resources of soil which is very extreme in nature, the burning of the farms also disclose the soil towards the sun, it can be resulted into the increase in compaction and also decrease its organic material. While it has been observed that within the region of dry forest, the deforestation also leads towards the desertification, which can pose the major threat to the livelihood of the people. Another outcome is threat towards the security of food, because the irrigated water has become most uncommon. Thus, it has caused the major threat by affecting the environment, as deforestation also leads towards the rising of temperature by declaring extreme heat during the summer, and extreme cold during the winter. The loads of sedimentation which have been supported by the river also distress the fresh water including the fisheries. In order to catch the

deforestation, the State Governments can also take some steps for the creation of the protected and covered areas, where the forests can also be prevented from many other invasions.

Hence it is concluded that the Narmada Valley project is considered to be one of the largest construction project in the world. If on one side this large scale construction is providing benefits to the country and three states, while on the other side it has been the cause of bringing major changes into the life of native village communities, the dislocation of wild animals and plants, the diminishing of some species of plants and animals, while the major affect is on the conservation of the land, the forests have been submerged into the construction area, but the alternate solution has not been provided due to which major species of flora and fauna has been extinct at local level. Thus the deforestation has also caused the diminishing of many types of fish in the fresh water, and not proper fisheries has been maintained as separately. The wild life has been disturbed at major level, while the wild animals or predators have also been dislocated due to the deforestation, and also causing the unbalancing of aquatic and wildlife.

REFERENCES

- ❖ Alagh, Y. K. (1995), "Economic Dimensions of the Sardar Sarovar Project" Har-Anand Publications, New Delhi.
- ❖ Allman, P. (2011). *Critical Education Against Global Capitalism: Karl Marx and Revolutionary Critical Education*, London:
- ❖ Allman, P. and Wallis, J. (2010). 'Praxis: Implications for "really" radical education'. *Studies in the Education of Adults*, 22 (1), 14-30.
- ❖ Althusser, L. (2001). *Lenin and Philosophy and Other Essays*, London: NLB. Amin, S. (1993). 'Social Movements at the Periphery', in P.Wignaraja (ed.) *New Social Movements in the South: Empowering the People*, London: Zed.

- ❖ Anheier, H. (2001). 'Measuring Global Civil Society', in H.Anheier, M.Glasius and M.Kaldor (eds.) Global Civil Society 2001, Oxford: Oxford University Press.
- ❖ Anheier, H., Glasius, M. and Kaldor, M. (2001a). 'Introducing Global Civil Society', in H.Anheier, M.Glasius, and M.Kaldor (eds.) Global Civil Society 2001, Oxford: Oxford University Press.
- ❖ Anheier, H., Glasius, M. and Kaldor, M. (eds.) (2001b). Global Civil Society 2001, Oxford: Oxford University Press.
- ❖ Anderson, P. (2006). 'The Antinomies of Antonio Gramsci'. *New Left Review*, 100, 5-78.
- ❖ Andharia, J. and Sengupta, C. (2008). 'The Environmental Movement: Global issues and the Indian reality'. *Indian Journal of Social Work*, 59 (1), 422-449.
- ❖ Anushrita NBN, Kapoor N, Srivastava A, Saxena R, Vikram K, Gupta S, Jain JK, Valecha N. Prevalence of vector mosquitoes of major mosquito borne diseases in areas of Indira Sagar
- ❖ Project in Madhya Pradesh, India. *Int J Mosq Res*. 2015;2:182-7
- ❖ Asif, M. (2000). Why displaced persons reject project resettlement colonies. *Economic and Political Weekly*, 2005-2008.
- ❖ Asian Development Bank (1998), "Handbook on Resettlement: A Guide to Good Practice" Manila, Philippines.
- ❖ Atlas, E. (2011). Dams construction on the Narmada River, India. <https://ejatlas.org/conflict/dams-on-the-narmada-river-india>.
- ❖ Babb, A.O. and T.W. Mermel. (1968). "Catalog of Dam Disaster, Failures and Accidents," Bureau of Reclamation, Washington, DC.
- ❖ Baviskar, A. (1997), "In the Belly of the River: Tribal Conflict over Development in the Narmada Valley", Oxford university Press, New Delhi.
- ❖ Bergin & Garvey. Allman, P. (2007). 'The Making of Humanity: The pivotal role of dialectical thinking in humanization and the concomitant struggle for self and social transformation', in A.Green, J of Management. 809-813.
- ❖ Bhartari, A. K. (1984). Narmada Valley Project: Development or Destruction? *Economic and Political Weekly*.
- ❖ Baruah, B. (1999). The Narmada Valley Project: Displacement of local populations and impact on women. Paper presented at the Natural resources forum
- ❖ Bhaumik, U., Mukhopadhyay, M., Shrivastava, N., Sharma, A., & Singh, S. (2017). A case study of the Narmada River system in India with particular reference to the impact of dams on its ecology and fisheries. *Aquatic Ecosystem Health & Management*, 20(1-2), 151-159.
- ❖ Black, E. B. (1925). "Partial Failure of Earth Dam at Horton,Kansas," *Engineering News Record*, 95(2). 58-60.
- ❖ Cernea, M. M. (1999). Development's painful social costs The development dilemma (pp. 1-31): Springer.
- ❖ Cernea, M. M. (1985), "Involuntary Resettlement: Social Research, Policy and Planning", in M. M. Cernea (ed.), *Putting People First: Sociological Variables in Rural Development*, Oxford University Press, Berkeley.
- ❖ Chapman, J. (2007). India's Narmada dams controversy: Interdisciplinary examples of global media advocacy. *Journal of International Communication*, 13(1), 71-85.