



Maladies of Development in India - Protest against Large Scale Dams: A Case of Hirakud Dam

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Abstract

Development for whom, who get the benefits etc. became principal agenda in the present development discourses. It not limited to the development practitioners, politicians but also among the intellectuals. Major developmental projects which required larger areas of land such as dams projects, unable to provide proper rehabilitation to the effected people. The case of Hirakud Dam stands as an example of malady development in India. Numbers of big dams were constructed in the country, but, even till date no successful case of rehabilitation and resettlement comes to front. The questions deserve the right to ask the government and development practitioners, decision makers of the country. Who get the benefit? For whom you made such projects? If the common people (at least the affected people) should enjoy the benefit from the development project. The paper tends to highlight development scenario of the country with reference to big dams, and tries to draw conclusion from the Hirakud Dam project in Odisha, retain the position of longest earthen dam of world. The milieu of successful, failure of resettlement causes of the rebellion against the dam. The affected people have no got their compensation till today. On the other hand government of Indian planned more numbers of hydro-projects (Dams), industrial set up. Can, new projects escape from the malady?

Key Words: Development, Hirakud, Dam, Mahanadi, Resettlement and Rehabilitations.

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Introduction:

Since independence in 1947, India has been undertaking development projects to improve the quality of life of its people through planned development under the successive Five-Year Plans. Such projects include Dams, Power, Mining, Industrial and Allied Infrastructures, Transport Network, Urban Development, Commercial Forestry and other projects. Some of these projects have brought adverse effects in the form of displacement of people from their original place of habitation due to large scale land acquisition. Development induced displacement in the country has brought severe socio cultural, economic, and environmental tribulations to the displaced people. Magnitude of displacement and severity of the problems due to multipurpose dam projects are too high as compared to other projects in the country (Cernea, 2000). They also lead to submergence of high quality of land, destruction of the watershed, disturb the delicate ecological balance and distort the surrounding environment, loss of wildlife and precious irreplaceable flora, and fauna etc. and most notorious evils of floods, water logging and salinity. The experience of post-independence period from projects across the country suggests that the long drawn out process of displacement has caused widespread traumatic psychological and socio-cultural consequences. These includes the dismantling of traditional production systems, secretion of ancestral sacred zones, graves and places of worship, lost of social capital (scattering of kinship groups, disruptions of family system and informal social networks) (Kothari, 1996). Michael M. Cernea (1997) has developed the risk and reconstruction model, which has already been tested to be applicable to the development induced displacement situation in the country. The model is built around a core concept: the risks of impoverishment. The eight-impoverishment risks are landlessness, joblessness, homelessness, marginalisation, food insecurity, increased morbidity and mortality, loss of access to common property and social disarticulation.

Sambalpur district lies between 20° 40' N and 22° 11' N latitude, 82° 39' E and 85° 15' E longitude with a total area of 6,702 Sq. Kms. The district is surrounded by Deogarh district in the east, Bargarh and Jharsuguda districts in the west, Sundergarh district in the north and Subarnpur and Angul districts in the South. The district has three distinctive physiographic units such as, Hilly Terrain of Bamra and Kuchinda in the north, plateau and ridges of Rairakhol in the south-east and valley and plains of Sambalpur Sub-

division in the south east. Sambalpur district experiences extreme type of climate with 66 rainy days and 153 centimeters rainfall on an average per annum. Most of the rainfall is confined to the months from June to October visited by south west monsoon. Mercury rises up to 47° Celsius during May with intolerable heat wave and falls as low as 11.8° Celsius during December with extreme cold. The rainfall is highly uneven and irregular (Mahalik, 2005).

The district forms a part of the Mahanadi River basin. The Mahanadi, the longest river of the state, entered into the district in the north western border, where the famous Hirakud Multipurpose Dam Project is built. Other important rivers of the district are the Maltijor, the Harrad, the Kulsara, the Bheden, and the Phuljharan. The district has a total forest area of 3986.27 Sq. Kms. which is 59.46% of the total area of the district. Total land under cultivation in the district is 173540 hectares. Most of the villages of the district are inaccessible during the rainy season. Presence of a number of nallas without bridges cuts off the villages from the nearby roads.

Hirakud Dam:

The Mahanadi (Great River) is in East Central India. It drains an area of around 132,100 km² and has a total course of 858 km. The river flows through the states of Chhattisgarh, Odisha, and Jharkhand. Like many other seasonal Indian rivers, the Mahanadi too is a combination of many mountain streams and thus its precise source is impossible to pinpoint. However its farthest headwaters lie 6 k.m. from Pharisuya village 442 m. above sea level south of Nagri town in Dhamtari district of Chhattisgarh. The hills here are an extension of the Eastern Ghats and are a source of many other streams which then go on to join the Mahanadi. For the first 80 km of its course, the Mahanadi flows in a northerly direction and drains the eastern portions of Raipur district. It is a rather narrow river at this stage, the total length of its valley not exceeding 500–600 metres.

Hirakud Dam is built across the Mahanadi River, about 15 km from Sambalpur in the state of Orissa in India. Built in 1957, the dam is one of the world's longest earthen dams. Behind the dam extends a lake, Hirakud Reservoir, 55 km long. Hirakud Dam is one of the longest dams in the world, about 16 mi (26 km) in length. It was the first major multipurpose river valley project started after India's independence. The name of the dam is mostly mispronounced in North India as Hira kund which is actually Hirakud. Before the devastating floods of 1937, Sir M. Visveswararya proposed a detailed investigation for storage reservoirs in the Mahanadi basin to tackle the problems of floods in the Mahanadi delta. In 1945, under the chairmanship of Dr. B. R. Ambedkar, the then Member of Labour, it was decided to invest in the potential benefits of controlling the Mahanadi for multi-purpose use. The Central Waterways, Irrigation and Navigation Commission took up the work. On 15 March 1946, Sir Howthorne Lewis, then the

Governor of Orissa, laid the foundation stone of the Hirakud Dam. A project report was submitted to the government in June 1947. Pandit Jawaharlal Nehru laid the first batch of concrete on 12 April 1948. The dam was completed in 1953 and formally inaugurated by Prime Minister Jawaharlal Nehru on 13 January, 1957 (Mahalik, 2005). The total cost of the project was Rs. 100.02 crores. The Dam with a reservoir covering 743 km² at its maximum level, was built in 1958 across the River Mahanadi. The Hirakud dam project was a multipurpose scheme intended for flood control, irrigation and power generation.

Purpose of Dam:

The dam constructed with three broad objectives which was essentially planned for flood management in the delta of Orissa, irrigation, fishing and hydropower production and flood management but now quenches thirst of industries at the cost of the aforesaid objectives. The dam which took shape from the tears of one and half lakh people, now provides water to a handful of industries - a satire to humanity, one can say.

- ***Electricity production***

Planned role in hydro-electricity production, when plans were framed for the construction of Hirakud dam, two things were given attention regarding hydroelectricity production i.e. the capacity of the reservoir in producing power and the installed capacity of the power plant. For this the Full Reservoir Capacity and Minimum Reservoir Capacity, total inflow and the evaporation rates were taken into consideration. The hydroelectricity production was the third major objective behind construction of the dam after flood control and irrigation. In the early plans provisions were made for an additional reservoir at Chiplima with a 350 MW installed capacity. In the first stage Burla Power House and in the second stage Chiplima Power House was constructed (in 1962). The installed capacity of seven generators in Burla Power House was 235.5 MW and the installed capacity of three generators in Chipilima Power House was 72.0 MW. The dam supports two different hydroelectric power houses. Power House I is located at the base (toe) of the main dam section and contains 5 x 37.5 MW and 2 x 24 MW turbine generators for an installed capacity of 259.5 MW. Power Station II is located 19 km (12 mi) southeast of the dam at Chipilima. It contains 3 x 24 MW generators. The Hirakud hydropower project consisted of two powerhouses named Burla (Hirakud I) and Chipilima (Hirakud II), and a 25 km power channel to carry the tailrace water from Burla powerhouse to Chipilima powerhouse. The entire installed capacity of the dam's power houses is 307.5 MW. At the time of appraisal, Burla powerhouse had 6 generating units, amounting to 198 MW of rated capacity. These units were commissioned from 1956 to 1964. During the

construction period for these projects, the penstock and excavation work for an additional generating unit were completed.

- ***Flood Control***

Planned role in flood control before the construction of the dam regular floods wrecked Orissa. It was assumed that prior to the dam land in Mahanadi River valley and in Brahmani, Baitarani and other river valleys were subjected to regular floods. Dr Khosla's report states that Hirakud dam was capable of managing 9.5 MAF (Million Acre Feet) flood water (Mahalik, 2005). The earlier plans contained clauses like the drained water released from the dam should never cross the 90 feet level at Naraj, closure of the flow at Banki and Mancheswar, closure of some spills in Kushabhadra, Bhargavi and Daya rivers and emptying a part of the reservoir to accommodate the run-off in the monsoon period for flood management. In this plan the delta area and the Sambalpur town were essentially given protection from floods. In the earlier plans the full reservoir capacity and the minimum reservoir capacity were estimated at 4.72 MAF and 1.88 MAF respectively. For this 64 sluices were constructed. The overall capacity of the spillway was estimated at 15 Lakh cusecs. The dam helps control floods in the Mahanadi delta and irrigates 75,000 square kilometres of land. Hydroelectricity is also generated. The Hirakud Dam regulates 83,400 km² (32,200 mi²) of Mahanadi's drainage. The reservoir has a storage capacity of 5.818 km³ with gross of 8.136 km (Government of Orissa, 2006).

- ***Irrigation***

In the proposed plan in 1947 the total irrigated land was estimated to be 350 000 Ha which included 198000 ha for flow irrigation and 157 000 ha for lift irrigation. Later on the revised plans estimated 235477 ha of irrigated land by the reservoir which included 159109 ha for Kharif and 79371 ha for Rabi cultivation. It was reported by the government that the reservoir has the potential for irrigating 108 315 ha of land in Rabi cultivation (Pati, 2008). In the 1953 report, due to cost effectiveness hydropower production was given priority instead of lift irrigation. Not only this, 10.76 Lakh ha of land was estimated to be irrigated by Mundali barrage to achieve irrigation potential in the delta area. This also contained renovations in many barrages across Mahanadi and Birupa rivers at Jobra and Jagatsinghpur. With these renovations 2.2 Lakh ha in Puri and Cuttack districts and an additional 1.364 Lakh ha land by renovations were planned to be irrigated. In the plans, for Kharif and Rabi cultivation, provisions were made for 100% and 40% irrigation respectively (Government of Orissa, 2006).

The project provides 1,556 km² of kharif and 1,084 km² of rabi irrigation in districts of Sambalpur, Bargarh, Bolangir, and Subarnpur. The water released by the power plant irrigates another 4360 km² in

Mahanadi delta (Pati, 2008). The dam can generate up to 307.5 MW of electrical power through its two power plants at Burla, on the dam's right bank and Chiplima, 22 km downstream from the dam. In addition, the project provides flood protection to 9500 km² of delta area in district of Cuttack and Puri. "If you are to suffer, you should suffer in the interest of the country." Indian Prime Minister Nehru, speaking to those displaced by Hirakud Dam in 1948 (Government of Orissa, 2006).

Impact on the environment

After the construction of the dam, in 1965 Sambalpur tasted the bitterness of famine. In the last decades in western Orissa there is increase in general evaporation rate. In the post-construction period desertification has started in the area. The reason behind this lies in the destruction of 1600 Ha reserved forest and 20400 Ha village forests for the dam. Now the industrial houses are rendering their share in destroying the remaining forest. For this reason people do not find dew drops, nor do they feel the earlier cold waves of winter in the local area. In many rain shadow areas of Bargarh there are no Mangroves or forests. The nature of climate change has put its adverse impact on the rainfall pattern of the region. In earlier times there was folklore about 8 days of heavy rain, 16 days of moderate rain, 32 days of slow rain and 64 days of drizzle (*Varsha chaturmasya*) for healthy crops. Now this has come down to 50 days in total. In the earlier plans the rainfall recorded as in the Mahanadi valley was 1381.25 mm annually. But looking at the rainfall pattern since 1958 till 2003, it can be said that the annual average rainfall has come down to 1132 mm in the region. With the fall in total rainy days and total rainfall, the irregularity of rain increased. Due to more stress on canal irrigation, the traditional harvesting structures are getting neglected. The canal is not capable of irrigating fields in the last end.

Opposition for the Hirakud Dam

There was large scale opposition organised by the local people very soon after the decision taken to build dam at Hirakud. Radhakrishna Biswas Rai, a minister, first announced that the construction of Hirakud dam would save the delta from the ravages of flood, the most fertile land and thickly populated region of Orissa. As the first notification came on 13 September 1946 for acquisition of land in 95 villages, strikes were organised in Sambalpur town.

Due to the following reasons:

- The construction of the dam greatly affected the native of western part of Odisha. Nearly 150,000 people were affected by the Hirakud project. Nearly 22,000 families were displaced by the dam project. This provoked the local people to ask as to why Sambalpur (undivided) should

suffer for coastal people. It is irrational to displace a large number of people from Sambalpur district in order to save the prosperous coastal delta from floods (Pati, 2008).

- M G Rangaiya, ex-chief engineer of Mysore. He subsequently released a 26 pages report and submitted his logics for the opposition of the dam at Hirakud. The argument made by him was that the dam would destabilise Orissa's economy due to the absence of any proper estimate of cost and benefit of the dam construction. The idea of generating electricity from Hirakud was shown by him to be very expensive as there was no natural waterfall and he rather suggested for the creation of a thermal power plant. He viewed the idea of navigation as a doubtful proposition, especially in the context of modern locomotives and changes the nature of trade and commerce. He also expressed his doubts on the life span of dam due to the large amount of silt in the river.
- Also he opposed the construction of dam at Hirakud in his report in 1946, opined that Naraj was the right place to construct the dam rather than at Hirakud. Flood management could be possible at Naraj by making a dam of 65 feet height. The dam at Hirakud would not check the flood if heavy rain occurred. Irrigation and generation of electricity could not be possible if there was scanty or medium rainfall. Today, after 50 years of its construction, the dam is facing exact situations that M G Rangaiya had predicted. But neither did the government pay any attention to his suggestion then, nor has it done anything to improve the situation now.
- The reason behind this lies in the destruction of 1600 Ha reserved forest and 20400 Ha village forests for the dam.
- When people of Sambalpur district heard about it way back in 1945 there was substantial mass agitation. Anti-Hirakud dam campaign was lunched since it was expected to submerge 108 full and 141 part revenue villages of Sambalpur district and also 3 full and 33 part villages of Pesar and Saraipali station of Madhya Pradesh respectively. Also the most fertile tract of the Sambalpur district was to submerge.
- People protested as they thought that the terrain of Sambalpur district would not be suitable for laying out canals, there would be huge loss of cultivable land, uprooting and dislocation of people, destruction of community life and general dispossessions (Nanda et al., 1987).
- They thought that it would be a positive gain for the coastal districts and deprive the inland/highland district such as Sambalpur. The main issue was why should people of Sambalpur district sacrifice so much for Cuttack district that are considered the long-term exploiters and clever people. If necessary the latter can be rehabilitated away from the flood plains. There were

several demonstrations; the largest being attended by 30,000 people and the ultimate demand was the separation of Sambalpur district from the rest of Orissa.

- At a time when the country was struggling for Independence and there were many divisive tendencies, such protest was resisted strongly by the Congress party and it was also disapproved by Gandhiji. It was also considered an anti-developmental activity led by the feudal rulers who were likely to lose most of their land. The movement fizzled out because of the imposing image of the Congress at that time, the arrest of important leaders leading to closure of communication channel, the casual participation of the people especially of the submergible area, the sheer disbelief of people that the rivers like Mahanadi and Ib can ever be dammed, the withdrawal of local congress leaders, the betrayal of some leaders and the projection of the dam not merely as an anti-flood measure but as a major developmental project in Orissa in general and Sambalpur district in particular.

All the positive aspects of dam construction flood control, irrigation, power generation and subsequent industrialization, infrastructure development, navigation, and availability of water for domestic and industrial use were highlighted without telling people the long term negative repercussions.

Diversion of water to Industries

Diverting water to industries was not the objective nor was any provision of water for the industries made in the original plan of the dam. Primarily from middle 90's and afterwards in the middle of the current decade, a number of industries lined up for drawing water from the reservoir. Prior to 1997, 31912 Lakh gallons of water was diverted to industries annually from the reservoir. It constituted 6 % of the total water provisioning to industries in the state. After the reconstruction of the water resource department in the 1997, a committee formed for water distribution. This committee permitted the industries for the drawing more water. Till 2007, water provided annually to industries from the reservoir amounted to 862 735 Lakh gallons. This was more than 27 times from the water diverted to industries in 1997. The technical committee report in 2007 puts light upon the storage capacity of the reservoir. Prior to this there were multiple surveys conducted like: survey in 1957, survey in 1988 by recommendation rule curve committee, three phase survey in 1986, remote sensing survey in 1995 and report of 2000 etc. The surveys were conducted for various reasons. But the expert committee's report assessed the storage capacity of the reservoir and found out whether irrigation will be affected by diverting water to industries. This report has been severely criticized by different farmer's organizations and resource persons. The report stated that agriculture will not suffer and hydro electricity will be partly affected by providing 0.5 MAF water to industries in the monsoon and 0.334 MAF in non-monsoon period. The storage capacity of

the reservoir is imagined taking into consideration the Full Reservoir Level at 630 feet. And to fulfill demand of industries 3.91 MAF is assumed to be available in the reservoir at the FRL of 630 feet. But statistics show that the average reservoir level hovers around 627 feet. In 1966, 1974, 1979 and 2000 the Reservoir level at its peak was less than 620 feet. It is difficult to assess the storage capacity of the reservoir taking into consideration the filling of the reservoir in any one year. The waste deposition into the reservoir by different industries is rising at an alarming rate. The amount of dependable flow from the reservoir cannot be predicted. The report says that 2.71 MAF water released from the dam will irrigate 267 960 ha in the first stage and 203 622 ha in the second stage in the delta area. But in the context of increased supply to industries, it can not be guaranteed that the released water will be the same 2.71 MAF in the coming years.

Intended vs. Actual Output

In his report in 1946, dam engineer MG Rangaiya expressed that after the dam is constructed the losses will outnumber the gains from the dam. Actually, in the last fifty years Hirakud dam is flooded with many controversies. The disastrous floods in Orissa due to wrong operation of the dam, multiple movements for displacement and compensation, dispute between farmers and industries regarding distribution of Hirakud waters, rapid decrease in the reservoir capacity, decrease in the fish production due to polluted waters etc put a question mark to the usefulness of the dam. Moreover, livelihoods of thousands of people affected.

The Promises of Government at the time of Displacement

The policy recommended in the project report was that “the government should give as compensation, as far as possible, land in exchange of land and house in exchange of house and that too well ahead of the date of actual submergence. The compensation in kind or cash should be on terms which are equitable and if anything generous. The government should assist the people in rehabilitation and strive to create conditions in the colonies which should be a definite improvement on the existing ones”. Model villages with the essential amenities of life that is drinking water, sanitation, schools, community centers, electricity, etc. were suggested. But in reality this not provided to them for which the protest movement is strengthened against the Dam or anti-Dam protest movement take new mode.

Displacement

It is observed at some length how the construction of large dams raises fundamental questions of equity, fairness, justice and equality before law, in the matter of distribution of benefits and burdens. The

deprivation suffered by displaced people raises vital issues of constitutional norms and human rights, including the right to survival, and the basic right to live with dignity. The plight of uprooted tribal's systematically pauperised in their search for work and livelihood so that 'the nation' may thrive and progress is particularly ironical in the light of special constitutional guarantees to protect Scheduled Tribes. We have also observed that decision-making about 'development' is not exclusively, or even primarily, technical or managerial in nature, but essentially political, reflecting power to impose costs on some groups and to benefit others (Cernea, 1997). Seen in this light, it becomes clear that the objectives of any just and equitable law and policy dealing with the colossal social and human impacts of big dams, cannot be limited only to minimising the trauma of displacement, and ensuring the just resettlement of the victims of displacement. It must incorporate the objective to end, or severely curtail, displacement itself, to no longer accept state-induced involuntary resettlement as an inevitable cost of all development projects. It must enable people to effectively challenge as equal partners, a form of development which takes for granted the inevitability of displacement. The first notification came on 13 September 1946 for acquisition of land in 95 villages, strikes were organised in Sambalpur town.

Further, it can be argued that the Hirakud dam has submerged more lands and displaced more people than estimated in the feasibility report. It was estimated in the feasibility report that about 168 villages would be submerged covering 1,35,000 acres of land under the Hirakud dam reservoir. Out of which 70,000 acres will be cultivated land (Government of India 1947: 315-17). But after the construction, it submerged 325 villages covering 1,83,000 acres of land. The submerged cultivated land was estimated at 1,23,000 acres. It submerged 291 villages in Orissa and 34 villages in Madhya Pradesh and displaced about 26,501 families (approximately 1, 00,000 people) (Government of Orissa, 2006; Nayak, 2010; Pati, 2008). Most of the displaced villagers were dependent on agriculture and for many lands. Lack of proper compensations and rehabilitation by the government forced the displaced people to move to different places to settle themselves on their own initiative. It resulted in severe livelihood crises, health hazards and diseases made them victims in their initial period of self-resettlement. Submergence of their lands under the Hirakud reservoir forced them to reel under various socio-economic crises and marginalised them in various aspects of their life.

Resettlement and Rehabilitation Policy

After Independence when India initiated development projects in different parts of the country, no specific policy was ever formulated either by the Central or the State governments to address the issue of displacement of people that took place. In the past resettlement and rehabilitation of the displaced people had been based on ad hoc plans, resolutions and orders, passed for specific states or even projects when

the need arose. Different State governments and ministries of central government followed different policies on resettlement and rehabilitation in the absence of a national Resettlement and Rehabilitation (R&R) policy. R&R policy of government do not work in practical it is more theoretical in the times of its implementation. Till present day the displaced of Hirakud Dam not able to get their compensation (Cernea, 2000).

Impact of immigrant in Dam irrigated area

From south India mostly Andhra were coming to this area due to its irrigation facilities and consequently settled down in the lower part of the irrigated are of canal. Most of them are settled near by of Bargarh Canal which is come out from the right sight of the Dam. They started commercial farming and used modern technology in the agriculture, and also use more fertilizer and pesticide in the field. After coming up them the sustainability of land was decline.

Recent trend in Hirakud Dam protest

In November, 2007 about 30,000 farmers stormed the reservoir to protest against increasing diversion of water meant to irrigate their land in favour of industry had its ripples vibrating the state's legislative assembly (2007). The multiplying requirements for industry and mining in the wake of state's ambitious industrialization drive has also raised many cases of localized tensions and conflicts around dwindling allocation and degrading quality of water for agriculture and drinking all around the state. Farmers say there already a reduction in irrigation from the reservoir, allocation of water to upcoming industries will make the situation worse (2007). Since the industries were allowed water from the dam through a government order in 1990, there has been a gradual increased in industrial water use from the dam. But post-1997, the industrial water allocation has gone up six times, coinciding with the state's industrialization drive (Odisha, 2013). In the Hirakud dam's command areas, agriculture sustains close to 90 per cent of the state population. "Either we win the fight or there is going to be an unheard-of situation," warns Murari Prasad Purohit (2007). On October 26, 2006, more than 20,000 farmers formed a 20 km-long human chain around the dam. This was the first sign that the farmers across the dam's command areas were emerging as a united force. In January this year, the farmers again assembled in nearby Bargarh town and demanded that the irrigation problems be fixed (Nayak, 2010; Baboo, 2009; Down to Earth, 2007).

Conclusion

Though Hirakud Dam satisfied with so many contributions to the Western Odisha's people, still it left greater dissatisfaction for its victims as well as local people. Because Dam cannot fulfill its promise which was declared at the time of its construction like the dam failed in resisting moderate floods, it do not resettled the displaced people properly according to their R&R policy, till now the victims of Hirakud Dam do not received their compensation which they ought to be. It was almost take half century, but still can't. Since the long, government and administration making promises to looks into grievances of the displaced people but nothing has been done. Most of the people they lost their means of livelihood. All the positive aspects of dam construction flood control, irrigation, power generation and subsequent industrialization, infrastructure development, navigation, and availability of water for domestic and industrial use were highlighted without telling people the long term negative repercussions. It is become an inevitable question to all the development planners, politicians who responsible for making discoing and also intellectuals that development for whom? Who get the benefit? For, whom government made developmental projects where they unable to compensate the affected people. These are some questions on the capability of government and development practitioner. In making decision of such large scale displacement prior to displacement government should take immense pain to reach each affected people and evaluate and actuate the cost of the project. By ensuring to the affected people they do not being ignored.

References:

- Baboo, B. (2009). Politics of water: The case of the Hirakud dam in Orissa, India. *International Journal of Sociology and Anthropology*, 1 (8), 139-144.
- Cernea, M. M. (1997). Hydropower Dams and Social Impacts:A Sociological Perspective. *Social Assessment Series* (044).
- Cernea, M. M. (2000). Risks, Safeguards and Reconstructions: A Model for Population Displacement and Resettlement. *Economic & Political Weekly*, 35 (41), 7-13.
- Chakraborty, M. (n.d.). Resettlement of Large Dam Oustees in India. *People and Dams*, 20-34.
- Down To Earth. (2007, December 31). *30,000 farmers demand Hirakud dam water*. Retrieved March 17, 2012, from <http://www.downtoearth.org.in>: <http://www.downtoearth.org.in/content/30000-farmers-demand-hirakud-dam-water>
- Government of Orissa. (2006). *Flood Report of Hirakud Reservoir for 2006*. Superintendent Engineer Hirakud Dam Circle, Department of Water Resources. Burla: Government of Orissa.

Kothari, S. (1996, June 15). Whose Nation? The Displaced as Victims of Development. *Economic and Political Weekly*.

Mahalik, N. (2005, April). Dam Across Mahanadi: A Dream Project of Dr. A.N. Khosla. *Orissa Review* , 74-78.

Nayak, A. K. (2010). Big Dams and Protests in India: A Study of Hirakud Dam. *Economic & Political Weekly* , 45 (2), 69-73.

Odisha: Hirakud Dam Displaced Families Protested Against State's Apathetic Attitude towards proper Rehabilitation and Resettlement. - See more at:

ttp://www.orissadiary.com/CurrentNews.asp?id=43466#sthash.RYkqLoNi.dpuf. (2013, August Saturday, 24). Retrieved June 21, 2015, from <http://www.orissadiary.com/CurrentNews.asp?id=43466>.

Pati, B. (2008, June 19). *Hirakud dam: Displaced families seek rehabilitation - See more at:*

http://www.merineews.com/article/hirakud-dam-displaced-families-seek-

rehabilitation/136009.shtml#sthash.1WYSEKfD.dpuf. Retrieved June 21, 2015, from

<http://www.merineews.com>: <http://www.merineews.com/article/hirakud-dam-displaced-families-seek-rehabilitation/136009.shtml>

Ray, P. (2000). Development Induced Displacement in India. *SARWATCH* , 2 (1).