

# Anti-dam Movements and Disputes for Indira Sagar National Project (Polavaram)

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**Abstract:** When a big dam project comes to an existence in the hilly and tribal areas, by the decision making mechanism, its victims will naturally be a large number of tribals. The great problem while constructing a dam is the submergence caused by the reservoir. Being uneducated, depressed, deprived and poor, they cannot raise their voice against the authorities. Protesting against big dams from different corners has a long history in India and abroad. The present study describes about the Indira Sagar National Project (polavaram), which is going to submerge a vast deciduous forest terrains including tribal settlements in the border areas of Chattisgarh, Odisha and Andhra Pradesh. Big demonstrations and anti-dam campaignings have been organized by the tribals. Most of the NGOs, Social Workers and intellectuals are supported the movement as there would be large scale deforestation and involuntary displacement. The primary observation in the study provides a picture of the cause and effect relationship of the movements and the secondary data provides social conflict caused by the Polavaram. Environmental-economics relating to a large dam project is the basic insight of the paper.

**Keywords:** Environmental Degradation, Massive Involuntary Displacement. Non-Government Organizations (NGOs), Anti-dam Movements, Inter-state Disputes, Central Water Commission (CWC), River Basins Projects. Probable Maximum Flood (PMF), Claims and Counter Claims, International Commission On Large Dams (ICOLD). Anti-Polavaram Movements, Tribal's Up-roar.

## 1.1 INTRODUCTION

National development strategies are framed and based mostly on the western ideas of modernization. Constructions of large dam projects are thought to be leading to development in a large scale. However, large dam projects stand as a dogmatic symbol of development. Some selected countries in the world are investing heavily in constructing dams with the main objective of achieving economic development. The top five leading dam building nations today account for nearly 80% of large dams worldwide. Dams with a height exceeding 15 metres is known as large dam project defined by the International Commission on Large Dams (ICOLD).

Constructions of Large dams are now-a-days, facing big challenges on the plea of environmental degradation and massive involuntary displacement. Movements and protests against big dams are growing united with campaigns waged by various environmentalists, Non-Government Organizations (NGOs), affected indigenous people and human right activists. They pressurize the government to withdraw such projects.

Establishment of big dams may be appraised in the context of the broad spectrum of the relevant state policies: i.e., the energy policy, irrigation policy, flood control strategy, forest policy, tribal development policy and so on. Once a project is decided to be established, by the decision making process, all the resultant impacts on account of its implementation need to be identified. The major question which needs to be answered is; "who will be the real gainers and who will be the losers?" Such type of study would like to focus on local employment situation, traffic problem, utilization of local resources, effects on environment and landscape, and issues relating to displacement, etc.

## 1.2 Objectives

The present study intended to pursue the following three important objectives:

1. To Know about the profile and location of Indira Sagar National Project (Polavaram) in between Odisha, Andhra Pradesh and Chhatisgarh.
2. To verify the causes and effects of tribal movements and unrests of the past for the establishment of large dam projects in India and on the basis of the experiences and lessons from past, to justify the problems and threats which are involved in Indira Sagar National project (Polavaram).
3. To analyse the Interstate Agreement Disputes between Odisha and Andhra Pradesh relating to construction of Polavaram Dam Project.

### 1.3 Methodology

The methodology here is analytical and descriptive, which is based on both primary and secondary data. Primary data is collected from most remote tribal villages in the region. Secondary data is collected from internet, reference books, articles, various publications and from news papers.

### 1.4 Indira Sagar National Project: A Profile

Indira Sagar National Project (Polavaram) is now constructing in a backward region of India which will affect the people and the areas with a great extent in the states of Chhattisgarh, Odisha and Andhra Pradesh (Map-1). Generally all the benefits will be covered and facilitated to the so called developed society of Addhra Pradesh and the costs are observed in the so called backward areas in the state of Chhattishgarh and Odisha. These losers are the down trodden indigenious and vulnerable people those will be now as the outers due to submergence of the project. Valuable lands, forests biodiversity with their valuable species will be damaged in the three states of tribal tracks of Odisha and Chhattisgarh and some part of Andhra Pradesh, infact, natural devastation environmental degradation, climatic change and the forest lose and back water problem will be occurred in both the side of the rivers of the states.

Map- 1: Location in India with Andhra Pradesh Odisha andChhatisgarh



As per the proposal, 2310 meter long and 38.32 meter height dam will be constructed to conserve 80 cusec water in its reservoir. The water of the reservoir will be supplied to 291000 hectors of land in four districts like Visakhpatnam, East Godavari, West Godavari and Krishna of Andhra Pradesh (Map-2). Water in its reservoir will be supplied to 174 Km long to Krishna district and 181 Km long to Visakhpatnam district through its left and right canal system. In the initial stage 9265 crores of rupees will be spent to construct the project. An additional 60 crores will also be invested as per the requirement. It was proposed to construct a barrage at Polavaram village 4.2 Kms. distances from the Polavaram dam.

Map- 2: Godavari river and polavarm project in Andhra Pradesh

Map- Location of the Dam, Barrage and Vicinity of



There was an inter-state agreement in between undivided Madhy Pradesh, Andhra Pradesh, Maharastra and Odisha government in 1974-75. At that time Polavaram project was stopped and later it was decided to change the structure by observing a great loss, and opposed in various quarters. Now the Government of Andhra Pradesh decided to construct the dam which will conserve 150' to 187' feet of water level in the reservoir. As per the statistics of Polavaram Authority 250 villages, 3223 hectors of reserved forest and 47043 hectors of un-demarcated forest land will be submerged by its reservoir in Odisha. Andhra Pradesh and Chatisgarh. If the project will be completed, it will create a great loss of Odisha where 28 villages of Malkangiri will be affected partially or fully due to the reservoir submergence. The situation will be worst in three blocks of the district like Kalimela, Podia

and Korukonda in rainy season. It is seen that most of the affected villages are the Koya, other tribal resettlers and East Bengal Refuse villages in the district.

### 1.5 The gap between the words and the work of the project authority

According to the estimate 15% or more than tribal population have been displaced or affected by development projects. The uprooting of the tribal people from their homes and habitat for building dam has been one of the shocking scandals of post-independence India. Providing monetary compensation has not been much use. It was not adequate. The tribal people who have given lump sum amounts of money could not use it properly. They were nothing in a short period of time. The rehabilitation projects were flawed as the tribal people put in area which had no similarity with the habitat they were used to. They were even given to rocky or barren land. Displacement has meant that the evacuated tribal people are driven to take up back breaking jobs in the unorganized sector.

In the decision making, when a project come to an existence an big assurance will be committed by the Public authority not towards its minimization displacement but also to provide adequate rehabilitation scheme at its initial plan formulation stage. After evacuation of the project affected people in the site, experience shows that there will be a long gap between the words and the work. The Hirakud dam commenced on 1964 (Nayak-2010) will be completely failed not only its development policy but also rehabilitation policy. People till today are not received any compensation towards displacement. In case of Balimela dam Project, commenced in 1961, survey conducted in the cut-off area proved that people still today have not received compensation and rehabilitation rather they lived in far from the human civilization with facing great difficulties by losing their ancestral homes. The past experience shows that the actual gap between works and words are prevailing in all the multipurpose dam projects.

### 1.6 History of Anti-dam Movements in India

Anti-dam movements have a long history. These have started since long time. Earlier, the campaigns were basically concerned with the protection of river basins, cultivable land, tropical forests and conservation of biodiversity. But recently such campaigns are made against large-scale involuntary displacements. In addition to these, the increasing research outputs through publications against large dams and opposition of activists across the world, enhance and strengthen the movements widely in third world countries like India. Table-1 below gives a list of establishment of major dam projects and associate movements by activists in India.

**Table-1: Movements by Tribal Communities in Major Dam Projects in India**

Sl. No	Name of the project	Name of river	State	Year of commencement	Movements of activists
1	2	3	4	5	6
1	Mulsi Dam	Mulsi	Maharashtra (Bombay Presidents)	1927	Malva men, women, children
2	Salient Valley	Kuchipuzha	Kerala	1980	IUCN, WWP Local people
3	Bhopalpattnam	Godavari & Indravati	Andhra Pradesh, Maharashtra, Madhya Pradesh, Odisha	1982	IUCN, WWP Local people
4	Lechhapalie	Godavari & Indravati	Andhra Pradesh & Maharashtra	1983	IUCN, WWP Local people
5	Bodhaghat	Godabari	Madhya Pradesh	1983	IUCN, WWP Local people
6	Mega Soudar Sarovar Project	Narmada	Gujurat	1988	Medha Patkor & Local people
7	Rothaag Chu Project		Sikim	1997	Local People
8	Koelkaro	Koel	Bihar	1998	Local & Other People
9	Hirakud	Maharadi	Odisha	1948	Budhuram dube & supports
10	Polavaram	Godavari	Andra Pradesh	2010	1. Tudumdebba 2. AVSP (CPI (M)) 3. GVSP 4. CPI
11	Tawa Dam	Narmada	Madhya Pradesh	1988	Aunupam Mishra & Supports Mitti Banchao Andolam

(Source: Mishra, PK.TSJ COATS 2016)

Large Dams are the structure that regulate, store and divert water from rivers with a height exceeding 15 meters defined by International Commission On Large Dams (ICOLD). The table-2 depicts the displacement of tribal people in comparison to total population in various major dam projects.



**Table-2: Displacement of tribal people of major dam projects in India**

Sl. No	Name of the Project	State	Displaced Population	% of displaced tribal population
1	2	3	4	5
1	Bhakra Nagal	Himachal Pradesh	36000	31.00
2	Bodhghat	Madhya Pradesh	12700	73.91
3	Chandil	Bihar	37600	87.92
4	Daman Ganga	Gujurat	8700	48.70
5	Icha	Bihar	30800	80
6	Inchampalli	Andhra Pradesh & Maharastra	38100	76.28
7	Karjan	Gujurat	11600	100
8	Koel Karo	Bihar	66000	88
9	Mahi Bajaj Sagar	Rajasthan	38400	76.28
10	Maheswar	Madhya Pradesh	20000	57.6
11	Polavaram	Andhra Pradesh	50000	52.90
12	Pong	Himachal Pradesh	80000	56.25
13	Sardar Sorovar	Gujurat	200000	57.6
14	Tulthli	Maharastra	13600	51.61
15	Upper Indravati	Odisha	18500	89.20
16	Hirakund	Odisha	100000 (app)	76.21
17	Balimela	Odisha	15800	87.5

(Source: Mishra, PK.TSJ COATS 2016)

### 1.7 Some major protests, movements and unrests against Inter-state disputes in India

In course of time several protests, unrests and movements have been organized by the anti-dam Protestants including displaced tribal people in India. Some of the major anti-dam movements have briefly been indicated keeping in view the proposed Indira Sagar national Project, which is the focus of the present study.

#### 1.7.1 Mitti Banchao Abhijan

The Tawa dam, is a large dam situated in Hasuangbad district of Madhya Pradesh and in between two rivers i.e., the Narmada and the Tawa. The Project envisaged in providing irrigation to 0.245 mha of cultivable land in the district. The total expenditure was estimated to be 300 crores rupees. The affected local people of the Tawa Project felt that the real wealth of a nation is its soil, its water and its forests as well as the things they produce and reproduce. When these are lost the everything is lost, they opined. This dam project would do more harm than the benefits. In the long run, these projects are costly, uneconomic and unproductive, inhuman and ecologically damaging (Chaudhury, 1987, P.23). So, the people started the movement popularly known as Mitti Banchao Andolan.

#### 1.7.2 The Kerala Sastra Sahitya Parisad's Movement

The Silent Valley Project was to be built on Kundipuja River in Palghat district of Keral. It was to produce 240 MW of power, irrigate about 10 000 hac. of cropland and provide employment to 2000 to 3000 people. The victims of the project were the people and also the environment. Unscientific ways of development, over exploitation of natural resources and environmental degradation were the main causes of unrest among the local people. The Kerala Sastra Sahitya Parisad (KSSP) started the movement against the Silent Valley. (Prasad, 1987, p.37)

#### 1.7.3 The Chipako Andolan

The famous Chipako Movement was started with the important realization that not only our forests were being logged, but forest lands were also being used for development projects like dams, river valley projects and industries etc. Destruction of nature continues in the name of development. The government itself is the culprit for the destruction of forests in the name of development. It was a big shock, and discontent among the tribal people, continued. The trees were cut on a large scale. The Chipako Andolan was started to save the Alakananda sensitive river catchment area (Bhatta, 1987 P. 43).

#### 1.7.4 The Bedthi Dam Movement

The Bedthi Dam in Karnataka is a good example where the people who were going to be affected strongly opposed the proposed dam. A large number of tribal people were going to be affected by this dam. The tribal leadership was active. The people opposed in such a way that the government was compelled to stop the dam (Nayak, 2010 EPW).

#### 1.7.5 The Bhopalapatnam and Inchhapalli Dam Movement

The Bhopalapatnam and Inchhapali dams were be constructed in central part of India where large number of affected tribal people were. It was going to affect a minimum of 25000 tribal people. There would be a loss of 0.175 mha of forest land. This was protested by the activists. Their leadership reached the grassroots level among the Tribal community. A big demonstration was organized on April 9, 1984 where the movement got support from all the political parties and environmentalists like Sundar Lal Bahuguna. Not only tribals but also other affected people were involved in large numbers to oppose the dams project. (Hiralal, 1987 P. 5-13).

### 1.7.6 The Narmada Banchao Andolans

The Narmada River is 312 kms. Long. It was decided to build 30 big, 300 medium, 3000 small dams which would be the country's largest river valley project. The areas which were going to be affected were in the States of Madhya Pradesh, Maharashtra and Gujarat. The tribal people were of the opinion that the project would make them strangers in their home land (Mishra, 1987 P. 14). It was going to be one of the biggest dam projects in India. People were against this Sardar Sarover Project which was popularly known as Narmada Banchao Andolan. A number of demonstrations were organized by activists like Medha Patkar in 1988. The Narmada Banchao Andolan was based on Gandhian principle of Satyagraha. The movement was based on extensive studies on social and environmental impacts of such mega dam projects.

### 1.7.7 Fight against the Koel Karo

The tribal people are mostly weak and powerless. The powerless and weak people generally face the trouble everywhere in the world. Tribals opposing the Koel Karo dam in Bihar were of the opinion that, the government had taken first their forests and then their river and streams. The opposition against the Koel Karo dam was one of the oldest fights in India against establishment of dam project. (Nayak, 2010 EPW).

### 1.7.8 Protest against Hirakud dam

The Hirakud Dam Project was a big River Valley Project across river Mahanadi. There was a large scale opposition from the local people when the first notification came on 13th September 1946 for acquisition of land in 95 villages. The local leaders along with some ex- bureaucrats took an active role in opposing the dam construction. A Satyagraha was also held on May 1947 under the leadership of Danardan Pujari and his wife Kamala Devi at Sambalpur in Odisha (Nayak, 2010, EPW)

## 1.8 Inter-state disputes in between Odisha and Andhra Pradesh

The Polavaram Project was envisaged by the British Government in 1941. But after independence there was an inter-state agreement in between the Governments of undivided Madhya Pradesh, Andhra Pradesh and Odisha in 1974-75. At that time Polavaram was stopped due to its multi-dimensional affect on economic, ecological and social fabric (Sambad 25<sup>th</sup> August, 2010).

It is evident that, there was a Resolution passed for the construction of Irrigation Project and submitted to the Central Government for the aggregate welfare of Andhra Pradesh, Odisha and Madhya Pradesh. It was stopped due to its financial constraint and planning. In 1980 the Central Water Commission (CWC) had discussed with the three Governments viz, Andhra Pradesh, Odisha and Madhya Pradesh and had passed a Resolution for the construction of this Project. But in 1987 the Union Environment and Water Resource Department rejected the plan and did not approve the forest and environment clearance to the Project. Now, the Andhra Pradesh Government could manage the necessary clearance for its most ambitious Project and recognized the Project as a National Project. It has always been involved in controversy since its inception. Andhra Pradesh Government intends to accrue pecuniary benefits at the expense of expropriation of local residents affected by Polavaram Dam Project.

## 1.9 Interstate Claims and Counter Claims

The Project came to limelight by the Ministry on 25<sup>th</sup> October 2005 and was not objected at that time. In October 2006 the Andhra Pradesh Government discussed details with Saifuddin, the then Minister of Water Resources at his tour to Hyderabad who approved the project as a National Project without any discussion with the Government of Odisha and Madhya Pradesh. The project was decided to inter link with Krishna to Godavari at that time. This decision of Central Government is baffling the State of Odisha and Chhatisgarh. To oppose the Project there was a Resolution passed in the Odisha Legislative Assembly unanimously on 18<sup>th</sup> November 2006.

The Government of Odisha filed in the Apex Court on 2009 expecting a sprawling submergence due to the construction of this Project. The Apex Court had accepted the suit and looking into the plea of Odisha against the Project. The suit filed by the Odisha Government for seeking suspension of Polavaram Project. It was discussed by Central Water Commission (CWC) and the Godavari Water Dispute Tribunal (GWDT), established in 1980 for an amicable settlement of polemic issues of submergence. The Centre noted that the Environment and Forest Ministry had accepted the Project proposal in January 2009 instructing Andhra Pradesh Government to ensure that there was no submergence of any habitation or forest area in Odisha and Chhatisgarh.

A Judicial Committee (Khandapitha) was formed by Chief Justice K.G.Balkrishnan, Justice Abhijit Pasayat and Justice S.K.Kapadia, pending the decision and ordered the Andhra Pradesh Government to take for permission from Ministry of Tribal Affairs about its rehabilitation and resettlement for further discussion. At the time of this hearing, the reservoir will be expected to submerge partly 1,93,000 families out of which 6,316 are in Odisha and 11,766 in Chhatisgarh. With an assurance from the then UPA Government at the Centre (The New Indian Express, 2010).

The Centre asked Andhra Pradesh to furnish a confirmation Report not to change the number of Project affect Schedule Tribe families which was reported at the time of clearance of the relief and rehabilitation. All necessary steps had been taken to prevent submergence. The Odisha Government appealed the Central Water Commission (CWC) for not furnishing properly any details before approving the Project. The Union Ministry of Environment and Forest Department recommended and suggested to construct an enormous embankment of 30 Kms long on both the sides of river Sabari and Sileru on January 2009 which is not declared at its approval time on 25<sup>th</sup> October 2005. (Sambad 5<sup>th</sup> Sept 2010).

Condemning the Centre for granting approval without informing Odisha, it is pointed out that the Project was fraught with the serious consequence of submergence and an adverse environmental impact on Odisha. It appealed to the then Prime Minister Dr. M.M.Singh seeking withdrawal of the clearance granted on 28<sup>th</sup> July, 2010. If the embankment will be constructed on both the side of river Sabari and Sileru thousands of people will be affected and the condition will be worst in rainy season.

The Odisha Government moved the Supreme Court seeking a stay on the final approval granted by the Union Environment and Forest Ministry for Indira Sagar National Project (Polavaram) and a direction for status quo. In response to Odisha's suit, the Centre

Justified the grant of clearance for execution of the Project. The Government of Odisha argued that when 2009 approval was still pending in the Apex Court the grant of the final approval on the same condition would be contravention of Supreme Court's orders (The New Indian Express, 2010).

Visualising Odisha's extrapolation of submergence due to flood, the Probable Maximum Flood (PMF) estimated for the Project was 141435 cusec (about 50 lakh cusec). The proposed Spillway was capable for disposing of the Probable Maximum Flood (PMF) and Dam safety had been checked for this condition. By drawing a distinction between the original and revised proposals, Andhra Pradesh Government alleged that Odisha entered into the 1980 agreement with Andhra Pradesh based on the maximum discharge of 36 lakh cusec but the plea of the Andhra Pradesh Government to the Union Ministry of Environment that the backwater would not be troublesome upto 182 feet for a discharge of 36 lakh cusecs (The Hindu Sept.2010).

**Table-3: Loss of Odisha declared by Andhra Pradesh Government over the periods apropos of letters to the Central Government**

Year	Contour (in Feet)	Submerging Village	Loss of land ( Hect)
1978	150	7	-
1997	179.85	7	1026 2119.38
1999	182	10	

Source Malyabant Dastabij 2007

It is construed from the above Table-3 that as per the interstate agreement the highest water level will be 150` declared by the Andhra Pradesh Government, where only some villages will be submerged. It is decided in 1997 that the height of the Dam will be 179.85 feet where only seven villages of Odisha with 1026 Hect. of land will be submerged. But on 4<sup>th</sup> July 1999, the Andhra.Pradesh Government had decided to enhance the height of the Dam to 182` where 10 tribal villages covering 2119.38 Hect. of land will be submerged. (Pradhan,2007). But, according to the Odisha Government, the Polavaram Project would submerge 9667.1332 Hect. of land with 15 Revenue Villages and 10 Hamlets in Motu Tahasil of Podia Block in Malkangiri District. Out of 6,818 people, 5916 tribal people will be displaced due to the establishment of the Project. The proposal to construct an embankment to prevent the affected villages of Odisha from its submergence tend to be unrealistic. The proposed embankment of 30 kms long and 45 feet high inside Odisha is a polemic issue on the ground of its land acquisition, environmental and ecological impacts. An intricate question also arises about its rain water and flood water at the time of rainy season if the embankment will be built. Odisha become discontented with the clearance from Environment Ministry to Polavaram Project.

There are records of several flood devastation seen in Sabari and Sileru catchment area in Odisha and Chhatishgarh. In August 2006 the flood damage was high and the amount of property and life lost in a water level of 145 feet in Sileru and Sabari catchment area. The Andhra Pradesh Government decided to construct the Dam of a height 182 feet where majority area of Malkangiri District of Odisha will be submerged under the Dam Project.

Recalcitrant demand for immediate cease down of work on the Indira Sagar National Project on river Godabari in Andhra Pradesh was made by BJD in Lok Sabha. Bhatruhari Mahatab, a BJD Party leader alleged that the views of Odisha were not considered by the Tribal Affairs Ministry before giving rehabilitation and resettlement clearance. He also alleged that Chhatisgarh, which is also affected, was not being consulted.The BJD MLAs including the Ministers submitted a Memorandum to the Honorable President Pranab Mukherjee through the Honorable Governor S.C.Jameer opposing the release of Rs.345 crores for the construction of the Project. BJD protested against Polavaram Project inside the Assembly on 12<sup>th</sup> December, 2015. Debi Prasad Mishra, the Minister of Industries of Odisha Legislative Assembly has protested to renunciate the Project and makes the Environment Department clearance null and void.

On this backdrop, Anti-Polavaram Movement has been intensified not only in Odisha but also in Chhatishgarh and Andhra Pradesh. Environmentalists, social workers, NGOs, tribal leaders and local people revolted against the project by realizing multi-dimensional devastation. They have the contention that the purpose of Dam construction is to obtain the effectiveness of Dam by considering its contribution to the area where it will be constructed. It needs to execute the investigation carefully. The large scale cost for its construction may lead to development to destruction. By anticipating the design and safety of the Dam, involuntary displacement, forest depletion and environmental issues many environmentalists and political leaders vowed against the then UPA Government at Centre by supporting the Government of Odisha. The Anti-Polavaram leaders have the opinion that before constructing a Large Dam, Government should think about organic link between the forest and the life of the tribals. Preservation of forest and Minor Forest Produce for the tribal livelihood, steps to protect the indigenous tribal knowledge of plants and their uses should be the highest priority of the Government.



### 1.10 Tribal's up-roar against Polavaram Project

The Polavaram Dam Project are opposed from various quarters from its inception. The Movement started long time by tribal groups and non-tribal groups by questioning the dam, its policy and its impacts.

There has been a huge uproar of tribals against the project in Odisha, Andhra Pradesh and Chhatisgarh. Environmentalists, social workers, NGOs, tribal leaders and local people started protesting the project by realizing its manifold affects on involuntary tribal displacement, forest depletion and environmental issues. Many social workers and political leaders vowed against the than UPA Government at centre for being biased by the State Government of Andhra Pradesh. The table-4 below indicates the infliction of the tribal people due to the displacement by the reservoir. It is seen that the tribals of Andhra Pradesh will be most sufferer in comparison to other two States. Most of the movements are organized by the local tribal inhabitants.

**Table-4: Tribal displacement in the Indira Sagar Project**

Sl. No	States	Tribal	Number of displacement	Movement / Activists
1	2	3	4	5
1	Odisha	Koya,Goti koya	6315	BJD and Local Leaders,Tribals
2	Chhattisgarh	Muriya,Dorla,,Halwa,Chatisgadia, Gond,Bhatri	11766	CPI,GVSP
3	Andhra Pradesh	Koya,Dorla,Reddy koya,Goti koya	19300	Tudumdeba,AVSP,GVSP

**Source:Compiled from primary data**

### 1.11 Conclusion

Dam projects have different positive and negative dimensions. The positive effects are related to water supply, generation of hydro- electricity, prevention of flood damage, fishery, navigation and recreation etc. Major Socio economic costs are displacement, valuable land loss, forest loss, environmental degradation and biodiversity depletion etc. Big dams usually cause big damages in terms of loss of human settlements, resources, forests, wild life and wilderness area etc. The most important element of nature is the forest which caters the need on the basic of fire wood, food, fodder, medicine, wood for building and raw materials etc. Big river valley projects generally have the effects on climate change and an increase in the fragility of natural ecosystem, soil erosion, and air and water pollution. Ecological impacts are associated with the river basin development on aquatic life including fish, aquatic plants and organisms that transmit human diseases. Scientific and recreational values of resources may be lost in the process of river basin development (Bhatt 1987). Reservoirs devastate unique natural areas, existing potential parks, wild life reserves and important historical and archaeological sites. It also destroys natural features of free flowing rivers, waterfalls, canyons and rare plant communities permanently. Investment in mega projects environmental protection is normally less prominent (Dasgupta and Pearce, 1972. Little and Mirrules, 1974). The valuations of environment costs are untouched. It ignores the cultural, social, economic and religious life of the tribal people.

At the time of proposal of Polavaram Project in 1983. Project was strongly opposed by K. L. Rao, famous water resource scientist of Andhra Pradesh. He suggested that Government should cease down the Project by observing multi-dimension problems. The same was investigated by some Scientists of National Institute of Hydrology ( Roorkey) in 1999. The institute submitted the Report and suggested to cease down the Project due to unsuitable soil for the earth-cum-rock hill Dam in the area. Professor J. P. Rao and Professor K. Reddy of Central University of Hyderabad strongly opposed the Dam for tribal displacement. There have been a tribal up-roar against the Project since its inception (The Sambad,2010, 25<sup>th</sup> ,Aug Jeypore).

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