



CIVILS SERVICES PERSONALITY TEST - MATERIAL **INDIRA SAGAR MULTIPURPOSE PROJECT** **(Polavaram)**

Intended Benefits:

1. To interlink Godavari (Polavaram) & Krishna (Vijayawada) just before they merge into sea.
2. To Store water at Polavaram dam in West Godavari district.
3. To Irrigate ~ 3 lakh hectare agricultural land.
4. To generate 950+ MW hydro-electricity
5. To Supply Water to Visakhapatnam & Vizag steel plant.

Background on Polavaram (Interstate agreement)

Indirasagar Polavaram an interstate project on river Godavari has been conceived as a part of recommendations of Godavari Water Disputes Tribunal (GWDT). GWDT finalized its award in 1980 .The award identifies individual projects that can be taken up by the co-basin states of Maharashtra, Madhya Pradesh (including Chhattisgarh), Orissa, Karnataka and Andhra Pradesh (AP) on the main Godavari river as well as its tributaries. As a part of the award, the states of Andhra Pradesh, Madhya Pradesh and Orissa executed an agreement dated 02-04-1980 to enable clearance of Polavaram Project to be undertaken by AP. The agreement provides for construction of the project with a Full Reservoir Level of 150 Feet and with a spillway discharging capacity of 36 Lakh Cusecs at pond level of 140 feet and not less than 20 Lakh Cusecs at a pond level of 130 feet. In order to protect the lands and properties above level of 150 feet, in Orissa and Chhattisgarh, protective embankments with adequate drainage sluices have been provided at the cost of the project. Relevant provisions of the agreement are reproduced below.

"Polavaram project spillway shall be designed for a flood discharge capacity of 36 Lakh cusecs at the pond level of 140 feet and not less than 20 lakh cusecs at pond level of 130 feet.

In order to protect the lands and properties above 150 feet in the territory of Orissa likely to be affected due to construction of Polavaram project, protective embankments with adequate drainage sluices shall be constructed and maintained at the cost of Polavaram project. However, the state of Orissa may exercise an option at the time of construction of Polavaram project for compensation to land and property likely to be affected above 150 feet as agreed in case of state of Madhya Pradesh (now Chhattisgarh).

For damages or injury to lands beyond 150 feet in the territory of Madhya Pradesh (now Chhattisgarh), in any event, the state of Andhra Pradesh shall pay full compensation for such damage or injury as may be assessed by the District Collector of the said district of the state of Madhya Pradesh (now Chhattisgarh)

Project in Brief

Indira Sagar (Polavaram) project is located on river Godavari near Ramayyapet village of Polavaram Mandal of West Godavari district in Andhra Pradesh. The project is multipurpose major terminal reservoir project on river Godavari for development of Irrigation, Hydropower and drinking water facilities to East Godavari, Vishakhapatnam, West Godavari and Krishna districts of Andhra Pradesh. The project will provide irrigation to 2.91 Lakh Hectares(CCA) and hydropower with installed capacity of 960 MW apart from

23.44 TMC (663.7 MCM) drinking and industrial water supply to Vishakhapatnam township and steel plant and diversion of 80 TMC waters to river Krishna. The ultimate irrigation potential of the project is 4.368 lakh ha and annual power generation will be 2369.43 million units. In addition, 540 villages will also be provided with drinking water facilities in the command area.

The project implements Godavari-Krishna link under Interlinking of rivers project. The project envisages transfer of 80TMC of surplus Godavari water to river Krishna which will be shared between AP, Karnataka and Maharashtra in proportion of 45 TMC by AP and 35 TMC by Karnataka and Maharashtra as per the decision of the GWDT award

Alternative Design Proposal

A proposal for taking up a series of barrages on Godavari river prepared by Shri T. Hanumantha Rao, former Engineer-in-Chief, Andhra Pradesh and UN consultant was received in Ministry of Water Resources through Shri P. Govardhan Reddy, Hon'ble Member of Parliament in December 2009. The series of barrages one below the other all along the river has been termed as "Step Ladder Technology" by the author. The proposal was sent to CWC for examination. The same was examined and the main observations of CWC were as under.

- i) Barrages are diversion structures for providing limited storage capacity during the time when water is available in the river
- ii) A barrage cannot fully meet water requirements during non-monsoon period for Rabi irrigation and other purposes like dependable power generation, diversion of water and supply of drinking water to a city.
- iii) The command area under existing lift schemes is getting irrigation in Kharif only. For providing irrigation supplies for Rabi and perennial crops as well, State government of Andhra Pradesh has taken up Polavaram project.

Direction of Hon'ble Supreme Court

Hon'ble Supreme Court has nominated Mr. M. Gopalakrishnan, Retired Member of Central Water Commission(CWC) who along with Members of CWC make inspection of Polavaram dam and submit a report to the Hon'ble Supreme Court separately to find out whether construction of Polavaram dam is carried out in terms of GWDT Award.

Mr. M. Gopalakrishnan and Members of CWC have visited the Polavaram dam during 23-24thMay, 2011 and separately submitted their report dated 14.6.2011 to the Hon'ble Supreme Court.

In both the reports of Mr. M. Gopalakrishnan and Members of CWC, it was concluded that the planning of Polavaram project and limited construction activities seen so far by the team at the Polavaram dam site are in tune with approved project and GWDT provisions.

Government of Chhattisgarh has filed in the Hon'ble Supreme Court against clearances granted by various Central Agencies including MoWR and against proceeding with the construction of Polavaram project by Andhra Pradesh Government and making defendant no. 1 to Govt. of Andhra Pradesh, defendant no. 2(a) to Ministry of Water Resources (MoWR), Government of India, defendant No. 2(b) to Ministry of Environment and Forest (MoEF), defendant No. 2(c) to Ministry of Tribal Affairs (MoTA) and defendant no. 3 to Central Water Commission.

Inclusion of Polavaram as National Project

State Govt. had submitted the proposal of the project for inclusion as National Project in April, 2009 as per guidelines for National Projects issued by the Ministry of Water Resources, Govt. of India. The project was recommended by the High Powered Steering Committee for inclusion as National Project in August, 2009. The

EFC memorandum was discussed in the EFC meeting held on 5.3.2010 and it was decided that state govt. may work out realistic cost & implementation programme of the project. The cost of the project has been updated as Rs.16010.45 crore at 2010-11 price level. The revised cost of the project for Rs 16010.45 crore (Price Level 2010-11) has been accepted by the Advisory committee of MOWR in its 108th Meeting held on 4.1.2011. Investment clearance from the Planning Commission for the revised cost is awaited.

Stop work order by MoEF

Ministry of Environment & Forest (MoEF) while responding to the special mention by Dr. K.V.P. Ramchandra, M.P. in Rajya Sabha on 12th August, 2011 regarding demand to conduct public hearing for Indira Sagar Polavaram Multipurpose Project in Andhra Pradesh commented as under:

"Government of Andhra Pradesh has so far not conducted the requisite public hearings in Orissa and Chhattisgarh. Due to non compliance of this environment clearance condition, the MoEF has issued stop work order for the project on 8th February, 2011....Since public hearings in both the states are still pending, the stop work order for the project continues. A final decision in this regard shall be taken after the orders of the Hon'ble Supreme Court".

Government of Andhra Pradesh vide its letter no. 14/ISPP/2013 dated 8.4.2013 has intimated that MoEF on the representation of Andhra Pradesh, has decided to keep the stop work order in abeyance for a period of six months during which efforts be made to get the Public Hearings done in the States of Odisha and Chhattisgarh for the protective embankments.

WHILE THE MANDAL MERGING TRIGGERS MANY QUESTIONS, PEOPLE OF THE SEVEN MANDALS ARE HAPPY TO BE ALLOTTED TO AP

The project cost has escalated from ₹10,151 crore in 2007 to ₹16,010 crore in 2010. Now, it may cost **₹20,000cr**

POLAVARAM TRIVIA

- The project will displace 177,275 people. Of them, 60,770 people belong to adivasi communities from Khammam.
- The project will generate 960 MW of seasonal power during the monsoon. Another 80 MW of firm power can also be generated from it
- Under the Polavaram project, there is a river linking scheme in which 80 tmc of water from the Godavari will be diverted to the Krishna and 23.44 tmc to industries in Visakhapatnam.
- The proposed height of the dam is 150 feet. If it is reduced to 100 feet, only four villages will be submerged. But, AP government is not ready to relent. Instead, it has been trying to get it increased to 154 feet to reduce the burden on projects on the Krishna River to supply water to Rayalaseema through the Srisailem project.

WHAT THE BILL STIPULATES

TRANSFER 7 MANDALS IN TELANGANA'S KHAMMAM DISTRICT TO EAST GODAVARI DISTRICT IN ANDHRA PRADESH

OBJECTIONS TO THE PROVISIONS

- Consent of State Assemblies concerned not taken before altering inter-State border
- 1,89,654 tribal people will become part of Andhra Pradesh
- Composition of ST reserved Assembly constituencies will be changed
- Sileru Hydro-electric project (460 MW) will be transferred to Andhra Pradesh

Bhadrachalam agency area
12,175 sq. km

Population:
5.61 lakh

POLAVARAM DAM WILL DISPLACE MORE PEOPLE THAN SARDAR SAROVAR DAM

Parameter	Polavaram	Sardar Sarovar project
Submergence (back water impact not included)	63,728 ha (including Chhattisgarh and Odisha)	37,000 ha
Forestland submergence (back water impact not included)	3,833 ha (including 102 ha in Odisha)	10,713 ha
Submergence of villages (back water impact not included)	293 (Andhra-276, Odisha-10, Chhattisgarh-7)	245
People displaced (back water impact not included)	250,000 in Andhra (Odisha's 1,002 families and Chhattisgarh's 2,335 families excluded)	Over 200,000
Dam type	Earth-cum-rockfill	Concrete gravity dam
Storage capacity	5.51 billion cubic metre (bcm)	9.5 bcm
Dam height	150 ft (45.72 metre)	455-460 ft (140 metre)

Source: South Asia Network on Dams, Rivers and People

Polavaram Dam Facts	
Location	Polavaram, West Godavari District, Andhra Pradesh
Construction began	2004
Opening date	under construction.
Operator(s)	Andhra Pradesh Irrigation Department
Dam and spillways	
Type of dam	Concrete spill way (754 m), Non over flow masonry dam (560 m) & Earth dam (1600 m)
Impounds	Godavari River
Height	39.28 m (129 ft) up to top of earth dam above the lowest river bed.
Length	2,914 m (9,560 ft)
Spillway type	Ogee section
Spillway capacity	3,600,000 cusecs at 140 ft msl
Reservoir	
Creates	Polavaram Reservoir
Total capacity	194 tmcft at FRL 150 ft msl
Catchment area	307,800 km ² (118,800 sq mi)
Surface area	600 km ² (230 sq mi)
Max. water depth	32.08 m at FRL 150 ft msl
Power station	
Operator(s)	APGENCO
Turbines	12 × 80MW Francis-type (left bank side)
Installed capacity	960 MW (under construction)



Against the tide

The central idea behind the project was to transfer water from the Godavari river to the water-deficient Krishna basin. But a study claims the conception of Godavari having surplus water is a myth. And, among other things, the project, if given the go-ahead by the court, will submerge villages and displace several more