



WATER AS WEALTH

FARMER, FOOD AND ENERGY

Strategies for Sunrise Andhra Pradesh



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India possesses 18% of the world's population but only 4% of its fresh water. Andhra Pradesh accounts for 5% of India's geographical area and 3.8% of its population. The state has a storage capacity of approximately 865 TMC for irrigation projects and 912 TMC for groundwater.

This water resource irrigates about 100 lakh acres annually and contributes approximately ₹4.94 lakh crore to the state's GSDP, constituting 34% of the total. It supports about 57% of the population, which relies on agriculture for their livelihood, in addition to meeting the state's drinking water and industrial needs. A hydroelectric project utilizes this water to generate 1.6 GW of electricity, further contributing to the state's economic growth. The increasing water demand, driven by green hydrogen initiatives, industrialization, a growing population, and urbanization, necessitates careful management. By optimizing water usage across all sectors, the state can conserve enough water to produce an exportable surplus of food and energy, thereby enhancing its wealth.

Some proposed actions to increase the state's water output are as follows:

Water, Irrigation, and Farmers

Interlinking of Rivers: The National River Linking Project (NRLP) aims to transfer water from surplus basins to deficient ones by interlinking 37 rivers in India through a network of nearly 3,000 storage dams. This will form a gigantic India National Water Grid. There are two components to this project:

- Himalayan Component (14 Projects)
- Peninsular Component (16 Projects)

The peninsular component of the NRLP envisages linking the 16 rivers of southern India. The proposal suggests transferring surplus water from the Mahanadi and Godavari rivers to the Krishna, Cauvery, Pennar, and Vaigai rivers through four sub-component linkages. Linking the Mahanadi and Godavari rivers to the Cauvery, Krishna, and Vaigai river systems is one of the components.

Completion of Mahanadi – Godavari Link - Andhra Pradesh has proactively



taken steps to transfer the surplus water in the Godavari Basin to Krishna whereas the Mahanadi Godavari link is to be completed by the Government of India.

Completion of Polavaram Project - The completion of the Polavaram Project is crucial for Andhra Pradesh as it is expected to significantly enhance the state's irrigation capacity, providing water to over 7 million acres of farmland and boosting agricultural productivity. The Krishna and Pennar river basins are closed basins as the dependable water yields are fully utilised for irrigation, industry and drinking water. Moreover, part of the Pennar River basin is a drought-prone area with rainfall of about 600 millimetres per year. On the other hand, the Godavari River basin has surplus water due to multiple technical constraints on utilization and as a result, more than 2000 TMC water flows into the sea every year. Therefore, it was envisaged to create a link to transfer surplus water from the Godavari River to the Krishna River which in turn to be transferred to drought-prone areas of the Pennar river basin. The government of Andhra Pradesh, in record time and as a first in the country, completed the Pattiseema Lift Irrigation Project on the Godavari River to transfer 80 TMC surplus water travelling over 174 km to about 12 lakh acre ayacut of Krishna delta, downstream of Nagarjuna Sagar project. As a result, this saving of 80 TMC of water in the Krishna basin could be transferred through the Pothireddypadu regulator upstream of Nagarjuna Sagar and Srisailem projects, to the Pennar basin via a network of canals, balancing reservoirs, major, medium and minor irrigation projects. Upon completion, the Polavaram project will transfer this water through a gravity canal. Therefore, completion of the Polavaram Project is the top priority of the government. It will be completed in all aspects in the next 5 years by 2029.

Completion of ongoing irrigation projects - There are 40 ongoing irrigation projects (23 major, 7 medium, 4 flood banks, and 6 modernisation projects). Upon completion, these projects will create 36.5 lakh new acres of new irrigation potential, in addition to stabilizing 4.3 lakh acres [1]. The lack of sufficient funds has prevented the completion of these projects over the last five years. The completion of these 40 projects should be taken up on a priority basis and will be provided with adequate financial support.

Minor Irrigation Tanks

Andhra Pradesh has the highest number of tanks in India. There are 41000 minor irrigation tanks in Andhra Pradesh, with 6000 covering more than 40 ha and 35000 covering less than 40 ha, offering a potential acreage of 25 lakh. These tanks will be restored and maintained on a three-year cycle basis, with priority given to railway-affecting tanks.

Water, Agriculture, and Farmers

Andhra Pradesh has about 85 lakh land holdings, of which about 59 lakh are marginal and have an average size of one acre. This indicates that land holdings in Andhra Pradesh are fragmented, resulting in low productivity. As a result, the farmers in Andhra Pradesh have a very high level of indebtedness and a very high debt-to-asset ratio compared to other states in India. The following is the contribution of different sub-sectors of the agriculture sector to the state's GSDP, with an estimate for 2028–29:

	Sector (Rs in crore)	2013-14	2018-
1	Agriculture	39,269	37,29



2	Horticulture	31,878	71,588	1,29,686	2,44,000
3	Livestock	36,430	91,633	1,61,735	3,12,000
4	Forestry & Logging	2,805	7,931	9,515	20,000
5	Fishing & Aquaculture	18,573	67,885	1,00,871	3,18,000
	Total	1,28,955	2,76,335	4,94,150	9,94,000



As can be seen, the agriculture perse contributes only about 15% output of the agriculture sector. The livestock, horticulture and fishing sectors are major contributors to the agriculture sector in Andhra Pradesh. It is proposed to almost double the output from the agriculture sector in the next 5 years by 2029 by adopting a series of measures to develop Andhra Pradesh as a producer and Agri-business hub. Some of the proposed measures are listed below.

- The existing Land Titling Act is set to be repealed to streamline land ownership processes.
- The scope of crop insurance will be broadened, and procedures simplified to provide better protection for farmers.
- Farmers are encouraged to use solar pump sets, enabling them to generate additional income by selling surplus power back to the grid.
- Ensuring an uninterrupted power supply of nine hours daily, available 24/7, is a priority.
- Annual financial support for farmers will increase to ₹20,000, offering greater economic stability.
- Micro-irrigation will be promoted through a 90% subsidy to encourage efficient water use among farmers.
- One lakh hectares of land will be dedicated to high-value horticulture with drip irrigation systems.
- A digital stack will be developed to address the credit needs of farmers, fishermen, and livestock raisers, utilizing AI and blockchain technology to create a reliable credit history for access to hassle-free crop and long-term loans.
- Rayalaseema will be established as a seed and horticulture hub with the creation of one mega food park and one seed park.



The Blue Economy initiative focuses on transforming the coastal areas of Andhra Pradesh into an aquaculture hub. As the largest producer of fish and shrimp and a leading exporter of marine products, Andhra Pradesh's 974 km coastline and extensive continental shelf offer vast untapped marine potential. A specialized program will enhance the marine sector through investments in mechanized trawlers, landing harbours, processing and packaging facilities for export, refrigerated storage and transportation, customs clearance, quality control and certification facilities, marketing support, and skill development for fishermen.





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