
SUSTAINABLE DEVELOPMENT VS ENVIRONMENT PROTECTION - ACHIEVING A FINE BALANCE: A CASE STUDY OF ANDHRA PRADESH

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ABSTRACT

Sustainable development is that development which takes care of the needs of the present generation while taking care of the needs of future generations. The generations shall pass on the mantle of needs and resources in a nature friendly and sustainable manner for the world to cater to its people across generations. The protection of environment is needed for sustainable development. The Industrial pollution, degradation of forests, depletion of ozone layer, the greenhouse gases results in global warming and climate which will have an adverse impact on environment and human health. Promotion of ecological balance enables sustainable development. As per Environment performance index 2017, India has been ranked 155th in the world based on the high- priority environmental issues. But in a developing country like India development cannot be causality because of environmental concerns.

The case study of Government of Andhra Pradesh offers a model for balancing the needs of development and environmental protection. The government of Andhra Pradesh took important steps like Observing Environmental Laws, expediting environmental Clearance Process, systematizing Solid Waste Management, protecting Bio-diversity, Monitoring the Treatment & Management of Hazardous Waste in Pharma sector, Regulating the activities in Coastal Zone Management, Prescribing environmental standards for various mining issues, Monitoring Air Quality Management through Regional Air Quality Assessment, saving soil, air, water with

technology solutions etc and organising environmental conferences are certainly creating a very good impact on the stakeholders, regulators and Govt. functionaries incorporating all best practices across the world in the policy making for sustainable development of the state while maintaining a fine balance with environmental protection.

Key words: Sustainable, Hazardous, Air Quality, posterity

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1. INTRODUCTION

The principle of sustainable development has evolved on the basic assumption of co-existence of two apparently conflicting notions i.e. development and environment. But from the practical point of view, ecological, economic and social aspects of sustainability are inseparable. As William Rees has rightly pointed out that maintenance of ecological integrity has to be accorded primacy over achievement of socio-economic human needs, thus there should be a convergence between ecological and economic factors in the developmental process.

The principle of sustainable development emphasizes on two basic needs, firstly, need for socio-economic development and secondly, need of limitation imposed on the environment's capability to cope with the present needs and requirements of posterity.

(1) Conservation and management of natural resources including preservation of bio-diversity and maintenance of biological integrity;

(2) Maintenance and enhancement of the quality of life adopting the principle of equitable distribution of wealth and material resources while peacefully coexisting with nature.

These objectives may be called as economic, environmental and social objectives of the principle of sustainable development. From the environmental point of view, the objective of the principle of sustainable development centers round three issues, namely, (i) to maintain essential ecological processes, (ii) to preserve genetic diversity; and (iii) to secure sustainable utilization of species and ecosystems.

In *A.P. Pollution Control Board vs M.V. Nayudu*, the Apex Court observed that where the State Government makes an attempt to balance the need of the environment and need of the economic development, it would not be proper to prohibit it from doing so. The crux of the judgment is to maintain the 'principle of inter-generational equity.

2. AP'S INITIATIVE AND COMMITMENT

Reducing water wastage and improving water use efficiency in agriculture, industries and domestic use is an important goal for the state. It is also targeted to increase the water use efficiency from 29% to 60% by 2029 by ensuring universalization of drip, sprinkler and other less water consuming micro irrigation mechanisms, use of rain guns and inter linking of the rivers. Water use efficiency in industries will be substantially increased through recycling, reuse and improving the production processes. Also, desalination of seawater for use in industries will be promoted wherever possible. The Andhra Pradesh Water Resources Regulatory Commission (APWRRC) and Water Use Associations (WUAs) are being strengthened in order to improve irrigation service standards. Water audits will be made

mandatory to ensure efficient usage of water from project level to the last measurable unit to ensure efficient water usage.

Sustainable Development is the need of the hour. The Government of Andhra Pradesh has envisioned an ambitious target of being one of the three best states in India by 2022 and becoming a developed state by 2029. This is intended to achieve by adopting a three pillared approach of economic sustainability, environmental protection and disaster resilience.

Government has integrated its two flagship programmes viz., KutumbaVikasam- security for Households SamajaVikasam- facilities to accelerate the momentum of saturation approach for achieving sustainable development in the society.

3. AP'S TARGETS AND GOALS

Table 1

S.No.	Indicator	Target for 2029
1.	Renewable Energy share of the total energy mix	30%
2.	Waste treated out of total generated waste (solid and liquid)	100%
3.	Industries / clusters that have a common effluent treatment plant	100%
4.	Industrial waste water treated and reused	100%
5.	Hazardous waste treated, of total generation	100%
6.	Industrial wastewater that is treated for reuse	100%
7.	New buildings constructed that have implemented rainwater harvesting methods	100%
8.	Disaster resilient infrastructure in the state	60%

4. CLEAN AND GREEN ENERGIES

To boost the solar energy, the Government plans to facilitate installation of about 5,107 MW of solar power generation and 4,927 MW wind power by 2019. This will meet about 25% total requirement of power. The Government keeps a target of achieving 50% requirement of total power demand through solar and wind energy. A 1000 MW Solar Power Park was commissioned in Kurnool District which is largest solar park in India.

4.1. Vanam- Manam (Forest-We)

To increase the forest/tree cover from 23% to 50% by the year 2029, a massive tree planting programme called Vanam-Manam was started in AP with peoples participation. It aims at planting of trees over 3.4 lakh ha per year outside the forest area during the coming 12 years.

4.2. Neeru - Chettu (Water and Tree)

To improve the ground water potential, Government has launched neeru-chettu campaign by taking up rain water harvesting structures in drought prone areas besides massive plantation drive in these areas. Also government is encouraging 100% drip and sprinkler irrigation in drought-hit areas, for environmental conservations and sustainability.

4.3. Biodiversity Management Committees

The Government constituted 1890 Biodiversity Management committees (BMCs) in the state for promoting conservation of biological diversity, sustainable use and documentation of biological diversity and preservation of habitats.

4.4. Waste to Energy Plants

AP has a potential of about 140-160MW by utilizing MSW. The government, as part of the Swachh Andhra Pradesh mission has proposed one waste to energy plant in all districts to convert the municipal solid waste into electricity. Already 10 wastes to energy plants were sanctioned and they are coming up in the private sector and it will reduce the waste to go to landfill.

The Govt. is also planning to take up Solid Waste Management in every Gram Panchayat by promoting waste to wealth programme and to achieve zero garbage production.

4.5. ODF and ODF Plus

The state of Andhra Pradesh decided to achieve the Open Defecation Free (ODF) status and in a mission mode executed the programme and achieved it by constructing around 31 lakh toilets. This achievement not only improved the sanitation but also had a cascading impact on public health. Enthused by the success of ODF, the state government decided to go for ODF Plus that will ensure clean and green villages with saturated solid and liquid waste management levels. Door to door collection of solid waste is done to maintain the village streets and homes litter free.

4.6. Zero Budget Natural Farming

Zero Budget Natural Farming in 1000 clusters in the State to increase the carbon content and to decrease the requirement of chemical fertilizers and pesticides. Government targeted 5 lakh farmers to take up organic farming in coming 4 years with budget of Rs.550 crores. The domestic breed of cow is the Centre of the natural farming system and farmer gets Rs.10,000 per cow. Farmers are trained in use of organic fertilizers and organic pesticides like neem oil, cow urine, cow dung. This system helps in increasing the carbon content in this soil. The farmer can get an income of Rs.4.8 to Rs.6.4 lakh per acre. The services of Padmasri Subhash Palekar are being utilized for this programme.

4.7. Sewage

The total sewage generation in AP is about 1580 MLD. The capacity of existing Sewage Treatment Plants (STP) is 284 MLD and the STPs under construction with a capacity of 202 MLD. For the balance quantity, the STPs are being taken up under Amruth scheme in various urban local bodies.

4.8. Emission Reduction Initiative in AP

The Govt. is taking emission reduction initiatives like the decentralized renewable energy production, recycling / re-use of waste, energy efficient buildings and appliances, access to collective passenger / non-motorized transport, increased green cover etc.

4.9. Amaravati – Blue green Eco Friendly Capital

AP Capital Amaravati is going to be a blue green capital covering a large extent of greenery and water bodies. It is assured that every step is taken to strike a ecological balance for its development and make this people's capital a sustainable city of the future. Massive tree plantation, eco-friendly structures are planned to keep the capital ecologically stable and sustainable.

5. SMART POWER WATER GRID

The Govt. will soon launch second power sector reforms aimed at increasing energy storage and use of disruptive technologies. The smart power grid will bring down the distribution losses from current 9% to around 3% and solar power revolution will also contribute to lowering the cost of power.

The Government will also develop a smart water grid in two to three years to overcome water scarcity, due to deficit rainfall or drought, in future .This can be achieved by interlinking all rivers and major and minor irrigation tanks across the State. It is possible and every village and every farmer should take part in this mission by saving precious water resources.

6. SUSTAINABLE TRANSPORT MODEL

Metro rail networks for Visakhapatnam and Vijayawada are proposed. Rapid bus transit networks, developing a comprehensive multi-modal High speed Regional Rail & Integrated MRTS, dedicated bicycle lanes, intelligent transport system for traffic monitoring and better functioning of multimodal transport and discouragement of inefficient vehicles by imposing carbon tax.

Increase in the number of private vehicles in urban areas is also a consequence of poor public transport infrastructure. As urbanization is unavoidable, public transport infrastructure will be given a major push. Schemes such as the Urban Renewal Mission have been used in the past to increase the usage of public transport in select cities. However, sustainable transport options are an absolute necessity to ensure a clean urban environment.

7. POLLUTION REDUCTION IN BUILDING TECHNOLOGY/MATERIALS

The Govt. is encouraging the use of green building concepts such as using of fly ash based bricks & materials, use of solar power for electricity & water heating, cross ventilation, use of maximum sun light, LED bulbs, rain water harvesting structures, waste water treatment systems, use of efficient systems for energy, water & other resources use of sustainable materials, functional land scape with less water usage etc. It is also proposed to follow the green building concepts in the new capital city of Amaravati.

8. EDUCATION AND AWARENESS

The Govt. is propagating environmental awareness among the school children and college students. The National Green Corps is actively functioning among the school children with emphasis on the environmental awareness. Environmental clinics for resolving technological issues for various industrial sectors have also been organized.

9. OPEN DEFECATION FREE STATUS

Go AP has initiated the Swatch Andhra campaign to eliminate all open defecation and attain Open Defecation Free (ODF) status in all 12,916 Gram Panchayats in phased manner by 2019 and have functional sewerage system covering all urban areas. Under the “Smart Village and Smart Ward” initiative, it is proposed to construct toilets in all residential houses and institutional buildings in the state, including all Anganwadi Centers, schools, health centers, GP/Ward buildings.

10. SWACHCH VISAKHAPATNAM

Visakhapatnam is considered to be a major industrial area in AP with industries like HPCL, VPT, Coromandel Fertilizers, NTPC, Steel Plant, Pharma industries etc. These industries are under continuous surveillance with on-line monitoring for their emissions and effluents by the Central and State Pollution Control Boards. Stringent standards have been stipulated for these industries when compared with National Standards. The Govt. of India has recognized the Visakhapatnam city as 3rd cleanest city in the country. This is an example of fine balance government is planning to achieve between sustainable development and environmental protection.

11. EASE OF DOING BUSINESS

The Govt. has made huge progress in simplifying the procedures of doing business in the state. The approval time for various new projects has been brought down to 21 days. The Govt. of AP has been awarded the first rank under Ease of Doing Business as per the ranking given by Govt. of India, though it is a newly formed state.

12. TECHNOLOGY FOR SUSTAINABLE ENVIRONMENT

Real Time Water Level Monitoring:- In all the districts of the state the ground water level is constantly monitored on-line by the Government through piezometer fed instrumentation systems. The data is fed in real time to the chief ministers dash board enabling every citizen to know the status of ground water district/mandal/village wise thus encouraging the citizens to go for water conservation practices to improve water table in that area.

Soil Testing – Micro Nutrients:-The Government has also undertaken soil testing for the micro nutrients deficiency in the soil in entire state to know the health of the soils and supplied the micro nutrients where ever deficiency is noticed on a saturation basis to regain the soil fertility.

Moisture Testing:- Testing the moisture of the fields in real time and alerting the farmers enables the timely intervention by farmer and government giving crop saving wettings as and when required thus ensuring optimal utilisation of the water resources effectively replacing flood irrigation of the fields.

E–Pest Solution:-Plantix is an application that takes the photograph of the pest crop wise and offers best eco-friendly solution to that problem thus saving the crop with minimum environment cost.

13. CONCLUSION

These important steps like Observing Environmental Laws, expediting environmental Clearance Process, systematizing Solid Waste Management, protecting Bio-diversity, Monitoring the Treatment & Management of Hazardous Waste in Pharma sector, Regulating the activities in Coastal Zone Management, Prescribing environmental standards for various mining issues, Monitoring Air Quality Management through Regional Air Quality Assessment, saving soil, air, water with technology solutions etc. and organizing environmental conferences are certainly creating a very good impact on the stakeholders, regulators and Govt. functionaries incorporating all best practices across the world in the policy making for sustainable development of the state while maintaining a fine balance with environmental protection.

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