

WATER

Strained demand and supply balance: According to recent calculations, rising demands due to increasing population and economic growth may result in about half the demand for water being unmet by 2030. Not to forget the existence of areas with acute water shortage and problems of poor quality.

What needs to be done? A case of paradigm shift in 12th Plan

- **Reform of major and minor irrigation (MMI) projects:**

Did you know that nearly 80% of our water resources are consumed by irrigation? The 12 plan document outlines the different ways in which we can work towards better water use efficiency of irrigation projects. It calls for a move away from a narrowly engineering construction-centric approach to a more multidisciplinary, participatory management approach to our major and medium irrigation projects, with central emphasis on command area development.

- 1 How?

- A 12 Plan proposes a 60% outlay earmarked to complete the huge backlog of ongoing MMI (major minor irrigation) projects.
- B 15% funds are earmarked to reduce the gap between irrigation potential created and irrigation potential utilized by focusing on command area development and management (CAD).
- C The plan gives strong encouragement to Participatory irrigation management and encourages states to enact PIM Acts at the earliest.
- D The plan document seeks to put maintenance on a viable trajectory for MMI projects. This has to do with accountability mechanism built into Irrigation service fee collected through either the water user associations at the villages or through the MMI staff. This aims to not just establish greater contact between the irrigation

department and the farmer but also incentivizes the users of water to manage MMI effectively.

- E Further, 12th plan advises Government of India to establish a non-lapsable NIMF (National irrigation management fund) , which incentivizes the ISF collection and reimburses each State Irrigation Department a matching contribution to its own ISF collection from irrigators on a 1:1 ratio.
 - F With the Modified Accelerated irrigation benefits programme (AIBP), Central assistance at the rate of 90 per cent will continue for the projects in special category States, projects in KBK (undivided Kalahandi, Bolangir and Koraput) districts of Orissa and projects benefiting tribal areas, drought prone and flood prone areas.
 - G 12th plan looks to support and strengthen the human resource potential of irrigation departments and gradually shift the discourse on water management from narrow construction orientation to management roles.
 - H The plan attempts to mainstream the use of management information system at the MMI level.
- **Groundwater: an emerging crisis:** Groundwater accounts for nearly two-thirds (66%) of India's irrigation and 80% of domestic water needs, thus the plan documents calls for a participatory approach to sustainable management of groundwater based on a new programme of aquifer mapping, as a prerequisite and a precursor to the **National Groundwater Management Programme**. Further, the plan calls for launching a massive programme for watershed restoration and groundwater recharge by transforming Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) into our largest watershed programme.

Reforming the Central ground water board (CGWB) is also on the agenda of the 12th plan. For the first time, the environmental impact appraisal conducted by Ministry of

Environment and Forests will need to include the impact on groundwater based on the inputs of the CGWB.

Further, the plan proposes a new and imaginative way to break the groundwater energy nexus, without hurting the interests of the farmers. During the Twelfth Plan sustainable groundwater irrigation development will be promoted in 11 Eastern States including the seven North-Eastern States, in order to more fully realise the potential of this region.

Further, the 12th Plan Sub-Group on Legal Issues related to Groundwater Management and Regulation (as part of the Working Group on Water Governance), has drafted a new Model Bill for the Protection, Conservation, Management and Regulation of Groundwater.

- The 12th plan calls for launching a completely revamped programme on **Repair, Renovation and Restoration (RRR) of Water Bodies**. During the Twelfth Plan, RRR will cover all water bodies with ayacuts of 20 ha to 2000 ha. A total of Rs5,000 crores is being allocated for the scheme during the Twelfth Plan period.
- **Urban water and waste management:** The growth of cities and industries is inevitable and this growth will have massive implications on the use of water and discharge of waste. As far as management and supply of water is concerned, currently, it is estimated that as much as 40–50 per cent of the water is ‘lost’ in the distribution system! Even this is a guesstimate, as most cities do not have real accounts for the water that is actually supplied to consumers. The 12th Plan proposes that the water supply programme for each city must provide for demand management and reduction of the cost of supply.

Even as cities worry about water, they need to focus on the wastewater treatment for regeneration/ recycling. We have no official accounts for the excreta we generate or the excreta we treat or do not treat. The fact is that we have no

way of really estimating the load of sewage in our cities, because of the different ways in which people source water and the different ways in which people dispose sewage. Large parts of the modern cities remain unconnected to the sewage system as they live in unauthorised or illegal areas or slums, where the state services do not reach. Just two cities, Delhi and Mumbai, which generate around 17 per cent of the country's sewage, have nearly 40 per cent of the country's installed capacity.

For this the Plan proposes that each city must protect its local water body and No Water Scheme Will be Sanctioned without a Sewage Component, which joins the dots with pollution of rivers and waterways. The plan also proposes that the city needs to plan deliberately for recycling and reuse of treated wastewater.

- **Flood Management:** In the period 1953–2010, on an average, an area of 7.208 mha and a population of 3.19 million were affected by floods every year. The current estimates of the flood-prone area in the country are 49.815 mha, which is higher than the assessment made by the Rashtriya Barh Aayog (RBA) in 1980 (40 mha).

Broadly, three kinds of flood management strategies have been adopted:

1. Engineering/structural measures, including construction of reservoirs for impounding monsoon flow and its release after peak flows have passed (attenuation) and providing river embankments/flood walls;
2. Non-structural measures, including flood plain zoning, flood forecasting, flood warning and flood proofing;
3. Catchment area treatment, including watershed management and restoring the health of natural drainages. Although the central focus has been one engineering/structural solutions. However, there is an acknowledgement of the limits to further possibilities of building large storage areas and embankments. Therefore

there is a concerted effort of some states to broaden the strategy of tackling floods by placing greater emphasis on rehabilitation of traditional, natural drainage systems, leveraging the funds under MGNREGA. The 12th plan strongly endorses such a paradigm shift in flood management.

- **Water Data Base Development and Management:** A new approach is proposed in the 12th Plan for water data base development which aims at concrete programme for phased action to improve physical facilities, methodologies and mechanisms to generate more comprehensive, detailed and reliable data in each of these respects and outlines changes needed in institutional arrangements for collection validation and dissemination of data and for facilitating intensive analysis through research.
- **New institutional framework for water:** In the 12th Plan, there is also a proposal to set up a National Water Commission (NWC) to monitor compliance with conditionalities of investment and environment clearances given to irrigation projects. At present, there is no appropriate body that can provide rigorous, credible and timely feedback to sanctioning authorities about compliance with the conditionalities they impose at the time of sanction. A multi-disciplinary, professionally capable and independent NWC to oversee water reform would have credibility with both Centre and States and would function on the lines of what has been attempted, for example, in Australia and become a guide for further water resource development in India.
- **Integrated watershed management programme (IWMP):** There are new guidelines to IWMP proposed by the Mihir Shah Committee. The guidelines are it has been decided to make the IWMP a five-year programme with a renewed focus on professionalism, capacity building, institutional building and a greater role for civil society. Further, based on the experience of a a lot of states , a new

framework is proposed for convergence of IWMP with allied programmes such as MGNREGA, National Rural Livelihood Mission.

- **Water Regulatory Authorities in Each State:** The plan document seeks to evolve an institutional framework backed by a legal regime that facilitates setting up of regulatory bodies that would enable resolution of water conflicts. To protect the right to drinking water for all, there is no alternative to entitlements and appropriate pricing of water. This demands a transparent and participatory process of determination of entitlements and prices. Again to ensure sustainability and meet environmental needs, a regulatory authority is a must in each State. It is also highlighted in the 12th Plan that in order to protect the consumer rights there is a high time to have regulatory authorities in the water sector. A Model Bill for State Water Regulatory System has been drafted by the sub group of the 12th Plan.
- **National water framework law (NWFL):** Water, like air, is one of the most basic requirements for life. If a national law is considered necessary on subjects such as the environment, forests, wildlife, biological diversity, and so on, a national law on water is considered even more necessary. To this end, a Sub Group (as part of the Working Group on Water Governance) in the 12th Plan has drafted a National Water Framework Law. It is important to note that The proposed national water law is not intended to either centralise water management, or to change Centre–State relations or to alter the Constitutional position on water in any way. What is proposed is not a Central water management law or a command-and-control law, but a framework law, that is, an umbrella statement of general principles governing the exercise of legislative and/or executive (or devolved)

powers by the Centre, the States and the local governance institutions.