

## Background Note

1. Brief Name : **West Bengal Major Irrigation and Flood Management Project (WBMIFMP)**
2. Detailed Name : Rejuvenation and rehabilitation of irrigation network for sustainable development in Damodar Valley Command area and management of floods in Lower Damodar Sub-Basin in West Bengal.
3. Location : Latitude 23°38'51" N to 22°20'59.76" N  
Longitude 87°18'13" E to 88°25'17" E
4. Districts Covered : Burdwan, Bankura, Hooghly & Howrah in West Bengal, India
5. Background : River Damodar originating from Chhotonagpur Plateau at Latehar District in Jharkhand, flows through the districts of Lakhar, Hazaribagh in Jharkhand and enters Purulia District in West Bengal. It then flows through Dhanbad District in Jharkhand and border of Purulia District, to reach Burdwan District. In its lower stretches, the river bifurcates into Mundeswari River and Lower Damodar (Amta) Channel near the border of Burdwan and Hooghly Districts. Mundeswari outfalls into river Rupnarayan, after flowing through Hooghly and Howrah Districts, Lower Damodar (Amta Channel) debouches into river Hooghly, after traversing through Hooghly and Howrah Districts. River Rupnarayan also meets river Hooghly in its course towards downstream and the combined flow outfalls into Bay of Bengal. 5 reservoirs have been built across river Damodar and its tributaries in Jharkhand, 4 by Damodar Valley Corporation (DVC) under Ministry of Power, Government of India about 6 decades back and 1 by the Government of Jharkhand about 3 decades back. Mandate on DVC was primarily to control floods in West Bengal and to provide water for irrigation, as well as Municipal & Industrial uses in West Bengal and Jharkhand (erstwhile part of Bihar) and to generate hydroelectric power. Barrage at Durgapur across river Damodar, in Burdwan District, nearly 60 km inside of inter-State border and irrigation canal network offtaking from the barrage also constructed by DVC, was handed over to the Government of West Bengal in 1964. Reservoirs owned and maintained by the DVC were operated by that authority in accordance with the prescribed provision of Operation Manual and also as per advice of the Damodar Valley Reservoir Regulation Committee (DVRRC), particularly during the flood season so as to achieve the objectives as per mandate. DVRRC is headed by a technical officer of Central Water Commission, under Ministry of Water Resources, Government of India and comprises representatives from other stakeholders in the

system, i.e. DVC, Government of West Bengal and Government of Jharkhand. In accordance with the provisions of DVC Act 1948 and inter-State agreement of 1978, West Bengal regularly receives its share of allocated and earmarked quantum of water from DVC reservoirs for irrigation (Kharif and Rabi), drinking and other municipal and industrial uses. Apart from the committed allocation, surplus water in the post monsoon season after meeting other committed needs is also released for irrigating Boro (post winter) paddy in West Bengal. Tenughat reservoir constructed by the Government of Jharkhand would also come under the unified command of DVRRC from 2016-17, which would further help in flood moderation in West Bengal as well as would provide more water for cultivating Boro paddy in the post winter period. So availability of water at source is not an issue of concern.

6. Irrigation : Command area of the project served by canal network having total length of around 2734 km in the downstream of Durgapur Barrage covers around 3.9377 lakh hectare (3937.7 sqkm), spread over 40 Administrative Development Blocks in the districts of Burdwan, Bankura, Hooghly and Howrah. Dilapidated regulating structures, silted up canal network, seepage loss of water in some critical zones of unlined canals, led to reduction of efficiency of irrigation management and scanty irrigation, particularly in tail reaches. As a result, gap between irrigation potential created, vis-à-vis utilized by surface water is increasing, inspite of having adequate availability at barrage point in normal monsoon years. Revamping of critically affected stretches of canal systems and structures and developing a suitable system for real-time operation and monitoring of irrigation by embracing latest technologies are the needs of the hour. Harnessing of post monsoon flow as well as tidal ingress in channels and rivers for irrigation during the lean season is also a major issue of development.
7. Flood Management : Lower Damodar sub-basin adjoining the two branches of main Damodar, i.e. Mundeswari River and Lower Damodar (Amta) Channel measuring around 1.887 lakh hectare (1887 sqkm) spread over 2 Municipalities and 20 Administrative Development Blocks, is historically flood prone. Around 4.61 lakh people and 0.335 lakh hectare (335 sqkm) of cropped area are affected annually due to flood related inundation. The major reasons of floods, water logging and drainage are
- Inadequate utilization of flood storage in upstream reservoirs for incomplete land acquisition.

- Unresolved conflict on the issue of constructing embankments on both banks of river Damodar, vis-à-vis keeping one side unembanked.
- Progressive rise of bed level of river Mundeswari at head reaches due to siltation, resulting in reduction of its carrying capacity and carrying lesser water particularly during low and medium floods.
- Tidal effect at the outfall of channels and rivers, causing prolonged drainage congestion.
- Inadequate capacities of drainage channels and outfall structures.

Although flooding cannot be eliminated altogether, there is scope of reduction of duration as well as extent of inundation, by revitalizing critical channels to facilitate more equitable distribution and quicker passage of flood water. Remodelling of regulating structures and various other structural measures are also required.

8. Conclusion : The challenge is to develop and implement a sustainable irrigation and flood management system in the project area, mostly rural in nature for betterment of agriculture, which is the mainstay of livelihood of local people, keeping in view the ground realities and constraints, particularly high density of population, even greater than the average population density of the State and small parcels of plots of land owned by marginal and small farmers, resulting in ruling out the scope of further land acquisition for all practical purposes.