

EXECUTIVE SUMMARY

Maharashtra occupies the Western and Central parts of India with a geographical area of 308 lakh hectare (*ha*) and has a long coastline of about 720 km along the Arabian Sea. The State enjoys tropical monsoon climate and is semi-arid in nature. The average annual rainfall in the State ranges from 400 millimetre to 6000 millimetre. Almost 42.5 *per cent* area of the State is drought prone.

The estimated average annual availability of water resources of the State is 198 billion cubic metre (BCM), which consists of 164 BCM of surface water and 34 BCM of groundwater. The area of the State is covered under five major river basins namely Godavari, Krishna, Narmada, Tapi and other west flowing river basins. Various inter-state river water disputes, tribunal awards/agreements and decisions on water sharing have limited the use of surface water resources of the State to 126 BCM, of which 69 BCM (55 *per cent*) is from the west flowing river basins. The cultivable area of this region is very limited (10.6 *per cent*), comprising a narrow strip of 50 km between Sahyadri ranges and Arabian Sea. The entire water available in basins of west flowing rivers can neither be used locally nor can be transferred economically to other basins as the rest of the basins are separated by high altitude ridge. On the other hand, the remaining four river basins having 89.4 *per cent* of the cultivable area have only 45 *per cent* of the water resources. Due to these constraints, about 42.50 *per cent* area of the State lies in deficit or highly deficit sub-basins. Optimum use of surface water, therefore, assumes importance in the State. Performance Audit on “Outcomes in Surface Irrigation” conducted to assess the outcomes achieved in six surface irrigation projects implemented in the state revealed the following:

- In none of the six projects, clearance required from the Central Water Commission regarding water availability and inter-state aspects was obtained by the Water Resources Department.

(Paragraph 2.1.1; page 9)

- None of the projects were completed in time and multiple revisions in administrative approvals kept the projects in construction phase for a long time. There was significant increase in cost of all the projects due to change in Schedule of rates, increase in cost of land, change in design and scope of the works.

(Paragraph 2.1.2; page 11 & Paragraph 2.1.3; Page 12)

- In three projects, revised approval was given despite unviable BCR.

(Paragraph 2.2.1; page 15)

- The target of creation of the irrigation potential (IP) could not be achieved in any of the six projects and gap between the projected creation and actual creation of the IP ranged from 3.20 *per cent* to 43.56 *per cent*. Further, the utilisation of the IP actually created was also inadequate ranging from zero *per cent* to 85.94 *per cent* during the period 2014-15 to 2020-2021.

(Paragraph 2.2.2; page 16)

- In all the six projects, there was considerable shortfall in irrigation of the targeted area of land in all the three seasons. Cultivation in command area of these projects was not up to its full potential during all the seasons as provided in their respective Detailed Project Reports (DPR).

(Paragraph 2.2.3; page 18)

- Actual cropping pattern under the command area of the selected projects was different from that proposed in the DPR in terms of variety of crops and cultivable area.

(Paragraph 2.2.4; page 19)

- There were gaps in the value of agriculture produce as estimated and actually realized. Crop production could not be increased for want of irrigation as planned in the DPRs.

(Paragraph 2.2.5; page 21)

- During physical inspection of the canal systems, two out of six projects (Andhali and Wagholibuti LIS projects) were found to be poorly maintained by the respective management divisions.

(Paragraph 3.1.2; page 25)

- No water was provided through canal system during the period to all surveyed 66 farmers of 12 villages of Andhali, Pimpalgaon (Dhale) and Wagholibuti project. In respect of the Haranghat and Sondyatola project, water through canal was provided during kharif season only to the 53 farmers of 16 villages surveyed.

(Paragraph 3.2.1; page 28)

- Non-formation/non-functioning of Water Users' Associations (WUA) defeated the objective of participatory irrigation management by the farmers.

(Paragraph 3.2.2.1; page 29)

- Water cess of ₹ 7.67 crore was outstanding by the end of 2020-21.

(Paragraph 3.3.1; page 31)

Recommendations

- ***The Government may ensure prior clearance of the projects from the Central Water Commission.***
- ***The Government may improve project management to avoid deprivation of water in drought prone areas of the state, regulate the lift irrigation and ensure optimal distribution of water.***
- ***The projects may be planned and executed in such a manner that they are completed in time and within the estimated cost and projects delayed with cost overruns should be completed at the earliest.***
- ***IP estimated should be achieved by prioritizing maintenance of canal system/ preventive works.***

- *The Government may ensure co-ordination between Water Resources department and Agriculture department in planning and execution of changes required in the cropping pattern as envisaged in the irrigation projects.*
- *The Government may ensure that proper surveys are conducted before approving the projects so that the benefits accrue to the intended beneficiaries in a time bound and cost effective manner.*
- *The Government may ensure prompt and effective maintenance of pumping machineries and canal systems of the projects.*
- *Participatory Irrigation management activities may be ensured by formation of WUAs, Canal Advisory Committees (CAC) and Co-ordination committees at various levels.*
- *The collection of water cess from the beneficiaries of the projects needs to be streamlined and it may be utilized towards maintenance.*

