

### Planning and Financial Management

#### 2.1 Planning

For efficient and effective utilisation of water, a valuable natural resource, the need for an integrated long term plan for the State and a comprehensive plan for each of the river basins in the State is of vital importance. Such an integrated plan would ensure balanced development in the State as also meet the needs of diverse water users. The GoM formulated the State Water Policy (SWP) in 2003, as it recognized that the isolated and fragmented approach to surface and ground water development coupled with an increasing conflict among the competing users of water for various purposes and poor operation and maintenance of the created facilities in the water sector, resulted in poor service delivery and large gap in the IP created and utilized.

#### 2.2 Non-preparation of State Water Resource Plan

The SWP, 2003 envisaged a unitary approach to surface and sub-surface water, adoption of river basin and sub-basin as a unit for planning, development and management of water resources and a multi-sectoral approach for the same. The State was to be divided into five river basin drainages and a River Basin Agency (RBA) was to be established for each basin. The RBAs were to have the responsibility and authority for the integrated planning, development and management of the water resources and watersheds of respective river basins, for flood management, drought management and operation and maintenance of water storage and delivery infrastructure. These RBAs were to prepare an integrated river basin plan with the effective inclusion and participation of representatives of all water user entities and other stakeholders. Based on the plans of respective RBAs, the State was to prepare a State Water Resource Plan (SWRP) to promote balanced development and proper coordination among diverse water users. MWRRRA was responsible for the review and clearance of water resources projects by ensuring that the same were in conformity with the SWRP.

Scrutiny in audit revealed the following:

- SWRP was not prepared even after a lapse of 10 years (up to June 2013) since formulation of State Water Policy in 2003. The Government stated (July 2013) that out of 30 sub-basin wise plans to be prepared for Godavari basin, plans for 16 sub-basins were ready while the remaining were in advanced stage of preparation. The Government further stated that the other IDCs have been directed to initiate similar action. Thus, non-preparation of river basin plans led to non-preparation of SWRP.
- MWRRRA cleared 189 projects during 2007-2013 though the SWRP, based on which the projects were required to be cleared, was not prepared and approved, and thus failed to address the fragmented and isolated approach to surface and ground water development. Further, out of 189 projects cleared, 96 projects were granted conditional clearances though no such provision existed in the MWRRRA Act, 2005. Scrutiny of

18 projects to which administrative approvals (AAs) were granted by the VIDC revealed that clearance was granted by MWRRA subject to framing of revised policy by WRD to lower the dependability<sup>13</sup> of water to already existing major projects from 75 per cent to 50 per cent since the new projects were proposed in the catchment area of the existing major projects. However, VIDC granted AA amounting to ₹ 248.95 crore to these 18 projects and incurred an expenditure of ₹ 320.61 crore (March 2013) though the revised policy was not framed by WRD (June 2013).

In the absence of SWRP, integrated planning, development and management of water resources as envisaged in the State Water Policy could not be achieved. Audit also noticed disparity among different regions of the State in the development of Irrigation Potential (IP) as discussed in **paragraph 2.2.1**.

### **2.2.1 Regional imbalance in the development of IP**

Section 21 (1) of the MWRRA Act, 2005 vested the MWRRA with special responsibility for removal of irrigation backlog as per the Governor's directives. The MWRRA was responsible for preparation of Annual Reports wherein the details of the backlog removed in each district every year through creation of irrigation potential were depicted. The IP created by the WRD and local sector (schemes less than 250 ha) were converted to Standard Rabi Equivalent<sup>14</sup> (SRE) in these Reports and compared to the net sown area<sup>15</sup> of 180.62 lakh ha as on June 1994<sup>16</sup>. As per the MWRRA Report for the year 2011-12, the percentage of IP created in the State in June 2011 with reference to the net sown area of June 1994 was 59.03.

The net sown area (NSA), IP created and IP created in SRE in June 1994 and June 2011 region-wise was as shown in **Table 2.1**.

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<sup>13</sup> Major and medium irrigation projects are designed for 75 per cent dependability of rainfall in the catchment area, which means that in three out of four years the dam will be filled. At 50 per cent dependability, the water availability in the projects upstream would decrease and more storage would be required so that the IP already created is not affected. This is because at 50 per cent dependability, the dam will be filled in two years. The Government has however, not framed such a policy

<sup>14</sup> Since the water requirement of a sown area would vary depending on the crop cultivated, soil condition *etc.* the cropped area in each district is converted to Standard Rabi Equivalent (SRE). Conversion factor fixed by Indicators and Backlog Committee is used to calculate the water required for an area having different crops against water required for equivalent area of Jowar crop in Rabi season. The percentage of IP created in terms of SRE in hectares *vis-à-vis* the net sown area for each district as well as for the entire State is then worked out. Districts with created IP less than the percentage of IP created *vis-à-vis* the net sown area in the State were considered as backlog districts and accordingly the physical and financial backlog determined

<sup>15</sup> It is the total area sown with crops. Area sown more than once is counted only once

<sup>16</sup> The Government had accepted backlog removal with respect to the State average of IP creation of 35.11 per cent of the net sown area prevailing as on 1 June 1994

Table 2.1: NSA, IP created and IP created in SRE as on June 1994 and June 2011

Region	Net sown area ( lakh ha)		IP created by State and local sectors ( lakh ha)		IP created in SRE by State and Local sectors ( lakh ha)		Percentage of IP created in SRE to net sown area	
	As of June 1994	As of June 2011	As of June 1994	As of June 2011	As of June 1994	As of June 2011	As of June 1994 (Col 6 ÷ Col 2)* 100	As of June 2011 (Col 7 ÷ Col 3) *100
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Amravati	31.38	30.76	2.64	5.80	4.16	8.74	13.26	28.41
Aurangabad	47.56	45.28	7.20	14.99	12.94	23.34	27.21	51.55
Konkan	8.78	8.18	0.90	1.65	2.65	4.45	30.18	54.40
Nagpur	19.69	19.02	5.67	8.79	7.47	12.30	37.94	64.67
Nashik	36.58	35.59	8.86	12.21	13.46	20.71	36.80	58.19
Pune	36.63	35.23	12.21	20.37	22.73	37.08	62.05	105.25
	<b>180.62</b>	<b>174.06</b>	<b>37.48</b>	<b>63.81</b>	<b>63.41</b>	<b>106.62</b>	<b>35.11</b>	<b>61.25</b>

**Source:** Data in columns 2 and 7 are from the latest Annual Report of MWRRRA for the year 2011-12. Data in column 5 has been taken from the Irrigation Status Report, June 2011 and Report on IP creation under Minor Irrigation (Local Sector), April 2011. Data in column 3 furnished by the Commissioner of Agriculture, Pune. Data in columns 4 and 6 are adopted from the Indicators and Backlog Committee Report of 1997.

Column 8 and 9 of **Table 2.1** show that the percentage of IP created in the State in SRE with reference to the net sown area ranged from 13.26 to 62.05 and 28.41 to 105.25 in June 1994 and June 2011 respectively, showing wide regional imbalances. The percentage of IP created region-wise in SRE to the net sown area in June 1994 was 13.26, 27.21 and 30.18 in Amravati, Aurangabad and Konkan respectively, while it was 62.05 in Pune, indicating wide regional imbalances. The regional imbalance continued to persist as the percentage of IP created in SRE to net sown area of June 2011 was 28.41, 51.55 and 54.40 in Amravati, Aurangabad and Konkan respectively, while it was 105.25 in Pune.

In the Economic Survey Report for the year 2012-13, the Gross Cropped Area (GCA)<sup>17</sup> of the State was given only up to 2010-11. However, information furnished to Audit (January 2014) by the Commissioner of Agriculture, Pune and the Director of Horticulture, Pune showed that during 2011-12 an area of 197.51 lakh ha was under food grains/cash crops and 21.70 lakh ha under horticulture<sup>18</sup> crops. Thus, considering these two elements, the GCA of the State in 2011-12 was estimated at 219.21 lakh ha. Further, since the region-wise details of 21.70 lakh ha under horticulture crops was not available from the Director of Horticulture, for ascertaining the regional imbalance in IP creation by the WRD (including the local sector) as on June 2011 and its impact on cropping pattern, the analysis was restricted to only food grains/cash crops for an area of 197.51 lakh ha, as shown in **Table 2.2** below.

<sup>17</sup> Gross cropped area is the sum of net sown area and the area sown more than once in an agricultural year

<sup>18</sup> The Director of Horticulture, Pune reported (January 2014) a total area of 21.70 lakh ha under horticulture crops for the year 2011-12 in the form of fruits/vegetables *etc.* but did not provide the region-wise/district-wise details

**Table 2.2: Comparison of region-wise cropped area of food grains in kharif, rabi, perennial (sugarcane) and hot weather season with IP created as of June 2011**

Region	IP created through (in lakh ha)			Cropped area under (in lakh ha) <sup>@</sup>				
	WRD <sup>\$</sup> Schemes	Local Sector Schemes <sup>#</sup>	Total	Kharif	Rabi	Perennial (Sugarcane)	Others (hot weather Season)	Total (5 to 8)
1	2	3	4	5	6	7	8	9
Amravati	4.63	1.17	5.80	33.08	4.60	0.05	0.11	37.84
Aurangabad	10.74	4.25	14.99	44.60	16.36	2.39	0.34	63.69
Konkan	1.07	0.58	1.65	5.08	0.34	0	0.13	5.55
Nagpur	6.32	2.47	8.79	19.17	3.77	0.08	0.21	23.23
Nashik	8.23	3.98	12.21	26.03	8.83	1.79	0.30	36.95
Pune	17.27	3.10	20.37	10.38	13.61	5.91	0.35	30.25
<b>Total</b>	<b>48.26</b>	<b>15.55</b>	<b>63.81</b>	<b>138.34</b>	<b>47.51</b>	<b>10.22</b>	<b>1.44</b>	<b>197.51</b>

Source: (i) \$: Irrigation Status Report of WRD; (ii) #: Data furnished by the Chief Engineer, Minor Irrigation (Local Sector), Pune; (iii) @: Data furnished by the Commissioner of Agriculture, Pune

Crops grown in the Kharif season are dependent mainly on rains while those grown in the rabi season, hot weather and perennial crops are dependent on flow irrigation through canals. **Table 2.2** shows that IP created in Aurangabad, Nashik and Pune regions was more than that created in Amravati, Konkan and Nagpur regions. As a result, in Amravati, Konkan and Nagpur regions agriculture is mainly kharif based while in Aurangabad, Nashik and Pune regions crops are grown in both the seasons.

The Government stated (January 2014) that the cropping pattern is decided by individual farmers depending on tradition and considering agro-climatic conditions. Amravati region is in assured and moderate to high rainfall zone and kharif crops are grown. Konkan region has a very high rainfall zone and have lateritic<sup>19</sup> and non-lateritic soil conditions where paddy and horticulture is mainly taken up. Cotton is an important crop in Vidarbha and Marathwada regions. Therefore, the conclusion drawn by Audit that rabi crops are taken up in Pune, Nashik and Aurangabad regions, while in Konkan and Amravati regions kharif crops are taken up is the impact of regional imbalance, is not correct.

The reply is not tenable because as seen from **Table 2.2** above, the Amravati and Konkan regions, which are in moderate to high rainfall zones, were lagging behind in IP creation. On the other hand, the greater area under rabi crops in Pune, Nashik and Aurangabad regions was a direct outcome of extension of irrigation facilities. Further, as on June 2011, there was a deficit of 6.70<sup>20</sup> *per cent* in removal of physical backlog of IP creation in the Amravati region comprising districts of Akola/Washim, Amravati, Buldhana and Yavatmal. Whereas in the Konkan region, of the four districts (Raigad, Ratnagiri, Sindhudurg and Thane), the physical backlog in creation of IP was removed in two districts of Raigad and Ratnagiri only in 2006 and 2011 respectively.

<sup>19</sup> A red soil produced by rock decay; contains insoluble deposits of ferric and aluminum oxides

<sup>20</sup> Difference between the State average of 35.11 *per cent* (1994) and that created (28.41 *per cent*) as on June 2011 as shown in **Table 2.1** above

### 2.3 Non-preparation of annual and five year development plans

As per the Acts of the IDCs, annual and five year working development plans were to be prepared to achieve the predetermined objectives. The status of preparation of plans by IDCs is shown in **Table 2.3**.

**Table 2.3: Status of preparation of plans by IDCs**

Name of IDCs	Whether five year working development plan prepared	Whether Annual Plan prepared	Remarks
MKVDC	No	No	The Government stated (July 2013) that master plan was approved by GoM in October 2001. Audit observed that the master plan did not stipulate any target dates for completion of the projects.
GMIDC	Yes	Yes	The five-year plan of 2007-12 provided to Audit contained total proposed outlay and target of IP creation for the total plan period of identified projects. But did not contain annual targets and no review was carried out for its implementation.
KIDC	Yes	Yes	The five-year plan prepared did not contain any year-wise targets.
VIDC	Yes	Yes	The Government stated (July 2013) that planning was done in 1997-2002, 1999-2007, 2006-09, 2010-2015. However, the annual plans containing targets did not have any link with the three and five year plans.
TIDC	Yes	Yes	The Government stated (July 2013) that five year plan was prepared for the period 2010-2015, prior to that the annual plans were prepared and reviewed at Government level. Audit observed that no review was conducted by the Governing Council (GC) for its implementation. Moreover, the annual plans containing targets did not have any link with the long-term plan.

### 2.4 Governor's directives for backlog removal not followed

Based on the Presidential Order issued under Article 371 (2) of the Constitution of India, the Honourable Governor of Maharashtra constituted (1994) Development Boards for Vidarbha<sup>21</sup>, Marathwada<sup>22</sup> and Rest of Maharashtra<sup>23</sup> to ensure equitable allocation of funds for development of these three regions. As per the initial report (July 1997) of the Indicators and Backlog Committee (IBC) appointed (1995) by the Governor, the percentage of IP created in the State *vis-à-vis* the net sown area was 35.11 *per cent* (31 March 1994) based on which the physical and financial backlog was worked out. The physical backlog was 13.83 lakh ha in SRE which was to be liquidated in five years from 2001-2002 onwards. The financial backlog in irrigation as on 31 March 1994 was ₹ 7,418 crore in the three regions of Vidarbha, Marathwada and Rest of Maharashtra.

Audit scrutiny revealed the following:

- Financial backlog of ₹ 7,418 crore as on March 1994 was recalculated at ₹ 6,618.37 crore on 1 April 2000 after considering the backlog removed during 1994-95 to 1999-2000. In the succeeding years,

<sup>21</sup> Consisting of districts of Wardha, Nagpur, Bhandara, Gondia, Chandrapur, Gadchiroli, Buldhana, Akola, Washim, Amaravati and Yavatmala

<sup>22</sup> Districts of Aurangabad, Jalna, Parbhani, Hingoli, Beed, Nanded, Osmanabad and Latur

<sup>23</sup> Districts of Thane, Raigad, Ratnagiri, Sindhudurg, Nashik, Dhule, Nandurbar, Jalgaon, Ahmednagar, Pune, Satara, Sangli, Solapur and Kolhapur

financial backlog was calculated by deducting the expenditure incurred on backlog removal. As financial backlog was never revised based on the increase in price, physical backlog could not be removed though the total required fund of ₹ 6,618.37 crore was spent by March 2010. The region-wise position of physical and financial backlogs in Vidarbha, Marathwada and Rest of Maharashtra regions during 2007-12 is shown in **Table 2.4**.

**Table 2.4: Region-wise position of physical and financial backlog during 2007-11**

Region	1 April 2007		1 April 2008		1 April 2009		1 April 2010		1 April 2011		1 April 2012	
	P	F	P	F	P	F	P	F	P	F	P	F
Vidarbha	3.38	2490.09	2.91	1874.19	2.63	788.76	2.55	0	2.40	0	2.34	0
Marathwada	0.54	720.65	0.44	407.76	0.19	159.20	0	0	0	0	0	0
Rest of Maharashtra	0.31	0	0.17	0	0.10	0	0.02	0	0	0	0	0
<b>Total</b>	<b>4.23</b>	<b>3210.74</b>	<b>3.52</b>	<b>2281.95</b>	<b>2.92</b>	<b>947.96</b>	<b>2.57</b>	<b>0</b>	<b>2.40</b>	<b>0</b>	<b>2.34</b>	<b>0</b>

**Source:** Governor's Directives  
**Note:** P : Physical backlog (in lakh ha in SRE); F: Financial backlog (in ₹ crore)

As may be seen from above, though the financial backlog was liquidated in all the districts by April 2010, the physical backlog in four<sup>24</sup> districts of Vidarbha region stood at 2.34 lakh ha in SRE even after passage of 13 years from the acceptance of the IBC's recommendation in the year 2000. The Government stated (August 2013) that 102 projects have been taken up in the backlog districts and are planned for completion by 2016-17 involving financial outlay of ₹ 8,034.38 crore. Of this, an expenditure of ₹ 890.82 crore was incurred in 2012-13 and ₹ 346.24 crore up to September 2013.

- The Governor noted mismatch during 2007-08 and 2008-09 between the allocation and the actual expenditure in these three regions, with excess expenditure incurred in rest of Maharashtra region (allocation by the Governor was ₹ 1,530.04 crore against which expenditure was ₹ 3,613.14 crore during 2007-09) while there was significant shortfall in Vidarbha region (allocation by the Governor during 2007-09 was ₹ 4,744.67 crore while expenditure was ₹ 4039.94 crore).
- The Governor directed (2009-10) the Planning Department to investigate the matter, fix responsibility for diversions as well as make recommendations to avoid such situations in future and submit a report. The Governor also noted that if such diversion of funds from one region to another and from backlog district to non-backlog district within the region had not happened, the remaining financial backlog in Vidarbha and Marathwada would have been wiped out. Perusal of the directives for the years 2010-13 (three years) revealed that compliance to Governor's directives for fixing responsibility for diversion of funds was not done. The Government stated (January 2014) that all information regarding release and expenditure had been submitted to the Planning Department for further action in the matter.
- The Governor acknowledged (2009-10) the huge cost of ongoing projects and the limited available resources. The Governor therefore, directed that the Planning Department conduct a detailed study of the cost and time overruns of the ongoing projects in the State and submit a

<sup>24</sup> Akola, Amravati, Buldhana and Washim



report within six months. However, it was noticed that the Government did not submit a report to the Governor. The Government stated (January 2014) that a Sub-Committee has been formed under the Chairmanship of the Executive Director, VIDC to study this issue and the report has been submitted to the Planning Department through WRD with recommendations to avoid such situations in future.

- The Governor also noted that there was no impact assessment study of the efforts to liquidate the irrigation backlog in terms of better returns to the farmers, improved quality of life and inclusive growth. This was imperative to ensure that the efforts under Article 371 (2) of the Constitution of India to take the development initiatives to a logical conclusion. The Governor therefore, directed (2009-10) that the Planning Department should commission an independent impact assessment study and submit a report. The Planning Department allotted (March 2011) the work of conducting impact assessment study to NABARD Consultancy Private Limited. The scope of work as per the agreement *inter alia* included ascertaining the reasons for cost escalation in projects, changes in cropping pattern, issues pertaining to land acquisition, resettlement of project affected persons *etc.* through selection of 12 projects and survey of 360 beneficiaries. The Government stated (January 2014) that the final report from NABARD was awaited.

## 2.5 Non-prioritisation of projects

A High Power Committee (HPC) headed by the Chief Secretary, recommended (November 2001) prioritization of the irrigation projects to prevent the thin spreading of limited funds among many projects, thereby ensuring completion of projects which were in an advanced stage of completion. The HPC recommended the following:

- No new projects to be taken up;
- Projects on which expenditure incurred was 75 *per cent* or more of the project cost, were to be completed first (category A);
- Projects on which 50 to 75 *per cent* expenditure of the project cost was incurred (category B) in areas with backlog in irrigation were to be taken up next; and
- Projects on which expenditure incurred was less than 50 *per cent* were to be taken to a safe stage and further expenditure stopped (category C).

The erstwhile Irrigation Department (now WRD) accepted the recommendations and accordingly issued instructions (January 2002) for planning and execution of the projects. However, the IDCs continued execution of projects without prioritisation as discussed below:

The summarised position of projects as per the categories specified for prioritisation as on April 2002, expenditure incurred on them *etc.* in respect of two<sup>25</sup> IDCs *viz.* MKVDC and KIDC is shown in **Table 2.5**.

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<sup>25</sup> Remaining three IDCs (GMIDC, TIDC and VIDC) did not furnish the information and therefore the analysis regarding priority in execution of the project was not possible

Table 2.5: Projects incomplete due to non-prioritisation

Prioritisation category as per HPC recommendation	Number of projects <sup>26</sup>	Balance cost as on April 2002 (₹ in crore)	Expenditure from April 2002 to June 2013 (₹ in crore)	Number of incomplete projects as on June 2013 (percentage to projects as on April 2002)	Cost overrun in respect of incomplete projects ₹ in crore (Number of projects)	Balance cost of incomplete projects as on June 2013 (₹ in crore) (Number of projects)
Category A	25	244.59	1295.76	10 (40)	1061.14 (10)	1061.92 (10)
Category B	27	2529.55	3747.69	17 (63)	1248.04 (16)	3485.75 (17)
<b>Total</b>	<b>52</b>	<b>2774.14</b>	<b>5043.45</b>	<b>27 (52)</b>	<b>2309.18 (26)<sup>27</sup></b>	<b>4547.67 (27)</b>
Category C	45	7236.73	7687.78	42 (93)	1765.64 (17)	14113.63 (42)
New Projects	Number of projects	Estimated cost	Expenditure up to June 2013	Projects completed	Projects incomplete	Cost overrun on projects (June 2013)
MKVDC	19	61.42	92.45	14	5	40.78 <sup>28</sup>
KIDC	17	968.61	900.84	0	17	327.85 <sup>29</sup>
<b>Total</b>	<b>36</b>	<b>1030.03</b>	<b>993.29</b>	<b>14</b>	<b>22</b>	<b>368.63</b>

Source: Information furnished by the IDCs

Table 2.5 showed that:

- Twenty seven projects (52 per cent) in Category A and Category B could not be completed even as of June 2013;
- An expenditure of ₹ 993.29 crore was incurred on new projects up to June 2013 taken up during 2002-13.
- If the ongoing 45 Category C projects were taken to safe stage and stopped and 36 new Category C projects had not been taken up as per HPC's recommendations, the two IDCs could have utilised ₹ 8,681.07 crore (₹ 7,687.78 crore + ₹ 993.29 crore) to complete all the incomplete projects under Categories A and B.

Further audit scrutiny revealed that in the 34<sup>th</sup> Meeting (June 2003) of the GC of MKVDC, it was decided to prioritise the projects into five categories as detailed in **Appendix 2.1**. Audit observed that there were 12 major projects and five Lift Irrigation Schemes (LIS) in the first, second and third priority as of March 2002. Of the 17 projects, only one project *i.e.* Bhima-Sina Joint Canal was completed at a cost of ₹ 236.32 crore. Though an expenditure of ₹ 12,032.79 crore was incurred (June 2013), the remaining 16 projects were not complete even after more than 11 years due to paucity of funds and land acquisition problems. Audit observed that the matter was further compounded when the Executive Director (ED) continued to release funds and an expenditure of ₹ 2,579.18 crore was incurred up to June 2013 on 12 other projects falling under the fourth and the fifth priorities. This was in violation of the directives of GC which stipulated postponement of projects placed under fourth and fifth priorities. It was also noticed that two projects<sup>30</sup> on

<sup>26</sup> Excluding minor projects under MKVDC

<sup>27</sup> There was no cost overrun in Bhima-Ujani major irrigation project under MKVDC

<sup>28</sup> Cost overrun only in 17 out of 19 projects

<sup>29</sup> Cost overrun only in eight out of 17 projects as in the remaining nine projects the expenditure was within the original AA

<sup>30</sup> Tembu and Purandar LIS



which expenditure incurred as on March 2002 was less than 50 *per cent* of the total cost, was included in the third priority by the GC in contravention to HPC recommendations and funding continued to these two projects.

The Government in respect of MKVDC stated (October 2013) that the projects under fourth and fifth categories were mainly LISs serving drought prone areas. The reply is incorrect in view of the Governor's directives that specifically ruled out taking up projects in drought prone areas, as all the districts having drought prone area in Rest of Maharashtra (MKVDC) were above the State average of IP created *vis-à-vis* net sown area. The Governor in his directive (2002-03) had also questioned the economic viability of LISs taken up in the drought prone districts of Solapur and Sangli in Rest of Maharashtra (MKVDC).

Besides the HPC recommendation and the Governor's directives, the Maharashtra State Development Report published (November 2005) by the Planning Commission, GoI reported that many of the irrigation projects commenced in different plan periods were not completed in time which resulted in cost overrun besides delaying water supply to farmers. The delays were attributed partly to inadequate allotment of funds required for completing the projects. Therefore, the Report recommended that priority be given to those projects which were nearing completion (over 75 *per cent* construction completed) by allocating the required funds and if required, no new projects be taken up for the next five years or till the completion of all the ongoing projects.

Thus, besides WRD's own knowledge of the incomplete state of many projects there were enough indicators by way of recommendations from the HPC, the Governor's Directives and the Planning Commission stressing the need for proper planning and financial management of irrigation projects. The fact that the balance estimated cost<sup>31</sup> of 601 ongoing irrigation projects (72 major<sup>32</sup>, 111 medium and 418 minor) as on 1 June 2013 was ₹ 82,609.64 crore (almost nine times the final capital grant of ₹ 8,588.02 crore allotted to WRD in 2012-13) indicated flawed planning by WRD in management of irrigation projects.

The Government stated (July 2013) that projects were taken up for liquidation of backlog, utilize water allocated by tribunals and for meeting the demands of public representatives and as such, it increased number of ongoing projects and the balance cost. Further, the Governor had permitted new projects to be taken up in Godavari river basin of Vidarbha region to utilize balance available water as per Godavari Tribunal Award due to which, the recommendation of HPC could not be implemented fully. The Government further stated that to protect the share of water allotted as per the first Krishna Water Dispute Tribunal (KWDT) award, work of all planned projects in MKVDC were taken up simultaneously. The Government added that efforts were made to enhance the allocation to the sector through the State sector

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<sup>31</sup> Balance funds required for completion of projects

<sup>32</sup> Including 20 Lift irrigation scheme

funds as well as getting higher Central Assistance under AIBP or funding from NABARD and that it was committed to completing last mile<sup>33</sup> projects.

The reply is not acceptable as the Governor's directives (from 2002-03 onwards) were not for allocation to any specific project and hence, funds could have been allocated as per prioritization recommended by HPC. Further, the Governor had recommended every year from 2006-07 to prioritise the funding of projects to avoid the 'spread thin' approach and prevent further cost escalation. Audit also observed that there was no financial backlog in 'Rest of Maharashtra' region as on April 2006 and thus, there was no justification for non-prioritization of the projects executed there. Further, since the KWDT award did not stipulate any time frame for completion of storage creation but only a review of the storage creation after May 2000, the simultaneous execution of projects for only storage without prioritization of the projects did not meet the primary objective of irrigation. Non-prioritisation of projects resulted in financial resources being spread thinly over many projects resulting in most of projects remaining incomplete.

A case in support of poor planning leading to frequent changes in the scope of work and delay in the execution of Vishnupuri project by GMIDC is discussed below.

### **2.5.1 Improper planning of Vishnupuri major irrigation project**

The Godavari Water Dispute Tribunal (GWDT) allocated (1979), 60 TMC<sup>34</sup> of water to Maharashtra State on Godavari river basin of which, 11.4 TMC was reserved for the Vishnupuri project. The Administrative Approval (AA) to Vishnupuri project, which is about 250 km downstream of Jayakwadi dam was initially accorded (May 1979) for ₹ 32.24 crore. The scope of the project as per AA included construction of a barrage, 68 km long canal and 28 pumps for lifting of water from barrage into the canal. Further, four LISs on main canal were also included within the scope of the project in the first RAA accorded in June 1994. The project envisaged gross utilisation of 11 TMC of water to irrigate 28,340 ha Irrigable Command Area (ICA) and 0.4 TMC towards supply of water to Nanded town. The barrage proper under the project was constructed in the year 1989 and part of the main canal, branch canal and distributaries up to 19 km were completed by 2001 and irrigation started from 2001-02. The WRD, thereafter, accorded three Revised Administrative Approvals (RAAs) increasing/ decreasing the scope of the project resulting in delays and increase in the cost of the project proper by ₹ 2,419.76 crore. The details of the various changes made at the time of grant of RAAs and the revised water use are as indicated in **Table 2.6**.

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<sup>33</sup> Projects which are in the final stage of completion

<sup>34</sup> TMC: Thousand Million Cubic Feet; One TMC = 28.32 million cubic meters (mcum)

Table 2.6: Table showing AAs and RAAs accorded to Vishnupuri Project

Sr. No.	Particulars	As per original AA (May 1979)	As per first RAA (June 1994)	As per second RAA (March 2005)	As per third RAA (November 2005)	As per the fourth RAA (August 2009)	As per Revised water use (October 2010)
<b>Phase I - Vishnupuri Original Project</b>							
1	Water use of the project in TMC	11.4	11.4	4.1	4.1	8.08	5.83
2	Rising Main (RM)	6 RM with diameter of 1,600 mm		3 RM with diameter of 1,600 mm		6 RM with diameter of 1,600 mm	3 RM with diameter of 1,600 mm
3	Pumps (Capacity: 850 horse power)	28 pumps	28 pumps	14 pumps	14 pumps	24 pumps	14 pumps
4	Length of the canals	68 km	65 km	49 km	49 km	68 km	49 km
5	Lift irrigation on canal	-	4*	1 <sup>s</sup>	3 <sup>#</sup>	4*	4*
* Shiradhon, Derla, Kiwala and Kolambi; \$ :Shiradhon; and # Shiradhon, Derla, Kiwala							
6	Projected IP to be created	28,340 ha	28,340 ha	19,514 ha	24,076 ha	28,340 ha	28,340 ha
7	Cost (₹ in crore)	32.24	196.60	225.10	261.16	579.59	
	IP created						17,080 ha
8	Expenditure (₹ in crore)					307.56	
9	Physical status of work: Construction of barrage, pump house building (for installing 28 pumps) was complete. Main canal up to 49 km and branch canal/distributaries were completed in 2009. The work of minors and field channel was in progress. The Head works of Shiradhon and Derla LIS were completed while in Kiwala LIS the work was not started. The headwork of Kolambi LIS and the distribution network of all the four LIS was in progress (October 2013).						
<b>Phase II - Vishnupuri Barrages</b>							
10	Projected IP to be created (No. of barrages)			23,247 ha (10 barrages)	22,823 ha (11 barrages)	23,446 ha (12 barrages) <sup>35</sup>	26,523 ha (13 barrages)
11	IP created (utilised)	23,598 ha (8794 ha)					
12	Water use of the barrages in TMC	-	-	6.40	6.41	3.32	6.55
13	Cost (₹ in crore)			375.84	750.61	1,872.41	
14	Expenditure (₹ in crore)					1,527.07	
15	Physical status of work: 11 barrages completed between 2009-11, out of 12 barrages <sup>36</sup> taken up for construction						
<b>Source:</b> Information furnished by GMIDC							

As will be noticed from the table above, the water use of the original project (Phase I) was kept at 11.4 TMC up to the first RAA, reduced to 4.1 TMC in the second and third RAA to accommodate the barrages in Phase II of the project, increased to 8.08 TMC in the fourth RAA and finally decreased to 5.83 TMC. Simultaneously, water use for the barrages (Phase II) also varied from 6.40 TMC in second and third RAA, to 3.32 TMC in fourth RAA and increased to 6.55 TMC in the revised water plan in October 2010.

In this regard Audit observed that:

<sup>35</sup> Through drip irrigation only

<sup>36</sup> Nanded- one barrage, Parbhani – five barrages, Jalna - four barrages and Aurangabad - two barrages

- There had been inconsistencies in framing the scope of the project, the projected IP to be created and water allocation as evident from **Table 2.6**.
- As against the envisaged utilisation of 11.4 TMC of water under Phase I of the project, the storage capacity created was only 2.96 TMC through one barrage constructed in 1989, with an optimum use up to 4.1 TMC (considering water use in monsoon and post-monsoon through regeneration flow). In order to recoup the deficit of 7.3 TMC of water (11.4 TMC – 4.1 TMC) allotted in Phase I, GMIDC accorded three RAAs between March 2005 and August 2009 under Phase II for construction of 11 more barrages upstream of the project and one barrage downstream of the project. Further, in the Water Plan approved by the GoM (October 2010), one more barrage downstream of the project was included to create an overall IP of 26,523 ha under Phase II. Thus, taking up the construction of 13 barrages within a span of five years clearly indicated poor planning for the project. The Government stated (January 2014) that 7.3 TMC of water was flowing to another State located downstream of the project, without utilisation. Therefore, Maharashtra could not use allocated water fully awarded as per GWDT. It further stated that due to limitations of storage capacity of the Vishnupuri project, it was not possible to use allocated water fully. Therefore, there was no other way but to construct additional barrages on Godavari river for optimum utilisation of water.

The reply is not tenable as even after revising the Water Plan five times from the AA of May 1979 to the latest Water Plan of October 2010, there was still a shortfall of 4.63 TMC in storage creation for command area of the project located in Nanded district (downstream of Phase I). Therefore, the Government's contention that additional barrages were built to tap the water flowing down to the neighbouring State is not correct as the envisaged objective of creating irrigation facilities to irrigate 28,340 ha through water use of 11.4 TMC was not met.

- Eleven out of 13 barrages planned and approved upstream of the project were overlapping the command area of Jayakwadi major project, which in effect led to transferring of water use of 5.81 TMC<sup>37</sup> (out of total allocation of 11.4 TMC) from the command area of Vishnupuri project to Jayakwadi project. The Government stated (January 2014) that though most of the sites of barrages are on upstream of Vishnupuri project, the barrages were proposed to utilise allocated water use of Vishnupuri Project. Hence, this was taken as Phase II of Vishnupuri project as decided in a meeting of Principal Secretary level officers at Mantralaya. The reply does not address the issue of transfer of water from Vishnupuri to Jayakwadi command area.
- The water use approved in fourth RAA was revised again in October 2010 for Phase I and Phase II of the project and accordingly 12.38 TMC of water (5.83 TMC in Phase I and 6.55 TMC in Phase II) was approved as against original allocation of 11.4 TMC.

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<sup>37</sup> 6.55 TMC of water was allocated for 13 barrages under Phase II as shown in **Table 2.6** less water allocation of 0.74 TMC for two downstream barrages

- Out of total IP of 23,446 ha to be created in Phase II of the project through 12 barrages, no IP creation was envisaged in the district having highest backlog *i.e.* Hingoli, which falls within the Godavari river basin.

The Government stated (January 2014) that Hingoli district was in Purna and Penganga sub-basins and that Godavari river is far away from Hingoli district. Hence, water from Godavari river cannot be transferred to Hingoli district. As regards backlog, the Government stated that Indicators and Backlog Committee (IBC) assessed backlog (1994) for 30 districts existing in the State at that time and the new districts *viz.* Gondia, Hingoli, Nandurbar and Washim were formed at a later date. Hingoli was initially part of Parbhani district which did not have backlog.

As per the Report<sup>38</sup> of the GWDT (Volume I), both Purna and Penganga sub-basins are part of the Godavari basin therefore, the Government's contention is not correct. Further, the reply that IBC recommendations were applicable only to the undivided Parbhani district is also not correct because the MWRRA Annual Reports from 2006-07 to 2009-10<sup>39</sup> clearly indicates that Hingoli district had a persistent physical backlog in IP creation ranging from 7.4 *per cent* to 5.58 *per cent*.

- Environmental clearance for construction of 13 barrages under Phase II with an envisaged IP creation of 26,523 ha was not obtained from the Ministry of Environment and Forest. The Government stated (January 2014) that the project was approved in May 1979 and clearance accorded by Central Water Commission in June 1983 for utilisation of 11.4 TMC of water and that the barrages were an integral part of the Vishnupuri project. The Environment Impact Assessment (EIA) notification came into force from 1994 and Vishnupuri was sanctioned prior to 1994 hence, the EIA notification was not applicable. The reply is not tenable as the additional barrages were approved in March 2005 as indicated in **Table 2.6** above. Further, as per the EIA notification of 1994 and its subsequent amendments up to 2002, the expansion and modernisation of irrigation projects with additional command area of more than 10,000 ha required environmental clearance from the Central Government.
- Work on Phase II of Vishnupuri project commenced even before completion of Phase I, where the IP created was only 17,080 ha as of October 2013, against 28,340 ha envisaged. Taking up of Phase II works without completing envisaged targets of phase I was also a reflection of poor planning.

Thus, improper planning at various stages delayed the completion of the project, with consequent increase in cost of the entire project (Phase I and Phase II) by ₹ 2,419.76 crore. Further, construction of barrages in non-backlog districts widened the disparity in IP creation.

## 2.6 Financial management

The construction of irrigation projects are funded through GoM's own funds, funds received from GoI for three Central Schemes namely, Accelerated

<sup>38</sup> Prepared in 1979

<sup>39</sup> Separate data on physical backlog on Hingoli district from 2010-11 onwards was not reflected in MWRRA Reports

Irrigation Benefit Programme (AIBP), Repair, Renovation and Restoration (RRR) of water bodies, Command Area Development and Water Management programme (CADWM), financial assistance from NABARD, loans from World Bank through Maharashtra Water Sector Improvement Project (MWSIP) and water charges collected from water users. The percentage of capital expenditure of WRD with reference to total capital expenditure of GoM decreased from 61.26 in 2007-08 to 42.25 in 2012-13. The budget provision and expenditure of WRD<sup>40</sup> for the last six years appears in **Table 2.7**.

**Table 2.7: Budget provision and actual expenditure (Revenue and Capital Expenditure) during 2007-13**  
(₹ in crore)

Year	Final Modified Grant		Actual Expenditure		Savings		Percentage of Saving compared to Final Modified Grant	
	Revenue	Capital	Revenue	Capital	Revenue	Capital	Revenue	Capital
2007-08	2638.85	7088.82	2228.10	7038.84	410.75	49.98	15.56	0.70
2008-09	2062.99	11386.79	2048.31	11370.33	14.68	16.46	0.71	0.14
2009-10	2451.04	9279.95	2270.48	8246.90	180.56	1033.05	7.36	11.13
2010-11	2538.96	9569.62	2295.95	9237.68	243.01	331.94	9.57	3.46
2011-12	2717.67	9049.41	2450.02	8236.27	267.65	813.14	9.84	8.98
2012-13	2626.17	8588.02	2240.55	7350.63	385.62	1237.39	14.66	14.41
<b>Total</b>					<b>1502.27</b>	<b>3481.96</b>		

Source : Appropriation Accounts

Audit observed the following:

- The Maharashtra Budget Manual, Para No. 173 envisages that all savings anticipated by the Controlling Officers should be reported with full details and reasons to the administrative departments concerned unless they were required to meet the anticipated requirement for additional funds under some other budget heads within the total allotment under the same grant/appropriation placed under their control. Scrutiny of the Appropriation Accounts revealed that WRD surrendered a total amount of ₹ 5,153.67 crore<sup>41</sup> during the period 2007-13. The Government stated (February 2013) that the surrenders occurred as the Finance Department did not release the funds to the Department.

### 2.6.1 Short release of funds by GoM to IDCs

The IDCs receive entire funding from GoM in the form of grants for execution of works and for meeting their revenue expenditure. The position of funds demanded by IDCs and funds received from various sources and expenditure incurred during 2007-13 was as detailed in **Table 2.8**.

<sup>40</sup> Excluding grant no I- 6 (Internal debt of State Government and I -7 (Loans to Government servant etc.)

<sup>41</sup> 2007-08: ₹ 559.47 crore; 2008-09: ₹ 74.11 crore; 2009-10; ₹ 1,218.87 crore; 2010-11: ₹ 576.84 crore; 2011-12: ₹ 1,099.05 crore; and 2012-13: ₹ 1,625.33 crore related to I-1 to I-5 grants



Table 2.8: Funds demanded vis-à-vis received for works during 2007-13 (₹ in crore)

Name of the IDC	Total demand including salary	Total receipts	Shortfall	Total expenditure
MKVDC	13534.00	7717.95	5816.05	6802.26
GMIDC	12548.10	8382.86	4165.24	8793.04
VIDC	22537.06	18346.60	4190.46	16423.85
KIDC	5242.45	3378.44	1864.01	3314.27
TIDC	2874.92	3547.66	(-) 672.74	3361.47
<b>Total</b>	<b>56736.53</b>	<b>41373.51</b>	<b>16035.76</b>	<b>38694.89</b>
<b>Source:</b> Information furnished by the IDCs				

While WRD surrendered funds amounting to ₹ 5,153.67 crore during 2007-13, there was short-release of funds to IDCs to the extent of ₹ 16,035.76 crore. The IDCs however, failed to fully utilise the funds released to them.

Thus, while short-release of funds by GoM necessitated prioritization of projects and avoid thin spreading of resources among many projects, this was incidentally not done, as already discussed in **paragraph 2.5**.

## 2.6.2 Funding of projects through GoI and bank

### 2.6.2.1 Implementation of Accelerated Irrigation Benefit Programme funded by GoI

The Accelerated Irrigation Benefit Programme (AIBP) was conceived in the year 1996 by the GoI in order to provide financial assistance to States to complete various ongoing projects so that envisaged irrigation potential of the project could be created and thereby extend irrigation to more areas.

During 1996-2012, 252 projects were taken up under AIBP of which, 138 projects (38 major medium and 100 minor) were completed. At the end of March 2012, there were 114 ongoing projects (28 major and medium, 86 minor). An expenditure of ₹ 10,767.58 crore was incurred on 28 major and medium projects. Information on expenditure incurred in respect of 186 minor projects was not made available by the WRD despite repeated requests. Of the 28 ongoing major and medium projects, Waghur major project under TIDC sanctioned in 1996-97 with period of completion of four years was not completed even as on December 2013.

Audit scrutiny of projects under KIDC revealed that as against the fund requirements of ₹ 1,272.53 crore for five<sup>42</sup> projects up to 2011-12, GoM made budget provision of only ₹ 998.34 crore up to 2011-12. Thus, there was short-provision to the extent of ₹ 274.19 crore. Further, against the budget provision of ₹ 998.34 crore, an amount of ₹ 892.39 crore was released by GoI to GoM at the rate of 90 per cent of the provisions made. However, as the details of utilisation to the extent of 70 per cent of the first installment were not furnished to GoI, balance 10 per cent of the Central Assistance was not released by GoI. GoM also did not release 10 per cent of its share. Thus, the total short-release of funds to these projects was ₹ 380.14 crore due to short-provision (₹ 274.19 crore) in the budget by GoM and the non-release of

<sup>42</sup> (i) Arjuna: original date of completion – 1998; (ii) Gadnadi: original date of completion – 2000; (iii) Nardave: original date of completion – 1994; (iv) Tillari: Original date of completion – 1989; and (v) Aruna: original date of completion – 2000

balance 10 *per cent* (₹ 105.95 crore) of the funds by GoI. The short-release had adverse impact on the progress of the projects as none of the five projects could be completed as of December 2013. Though, GoI agreed to extend the period of completion of these projects, the short-release defeated the objective of accelerating the completion of projects, which envisaged an IP creation of 44,945 ha. The IP created was only 10,681 ha (23.76 *per cent*) as of June 2011 thus, depriving the benefits of the projects despite a lapse of 17 to 33 years from the date of grant of original AAs and after incurring an expenditure of ₹ 2,282.68 crore.

### **2.6.3 Projects funded by NABARD**

NABARD provides loan under the Rural Infrastructure Development Fund (RIDF) for execution of various minor irrigation projects. As per the records of WRD, financial assistance aggregating ₹ 1,824.91 crore in respect of 440 minor irrigation projects was received from NABARD during 2007-08 to 2012-13.

Audit scrutiny revealed that of the 440 projects, 18 projects were subsequently deleted and 278<sup>43</sup> projects were completed up to March 2013. Of the remaining 144 projects, 71 projects were scheduled to be completed by March 2015. In the remaining 73 projects scheduled for completion between March 2003 and March 2013, nine projects were delayed due to paucity of funds, 21 projects were pending RAAs, 15 projects were pending land acquisition, nine projects were delayed due to farmers' opposition, two projects were pending rehabilitation of project affected persons, three projects were pending due to other reasons and the reasons for non-completion of the balance 14 projects were not available on record.

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<sup>43</sup> Out of 278 projects, in 189 projects there were delays ranging between one and 10 years