

Chapter-II

Audit Approach

This performance audit focuses specifically on the Outcomes in Surface Irrigation. The benefits envisaged in the DPR of major/medium irrigation projects and Administrative Estimates of minor irrigation projects were taken as the criteria for the purpose of identification of tangible outcomes and their assessment. Audit sought to analyse the gaps in achievement of outcomes (if any) and the underlying causes & factors behind such under-achievement.

2.1 Audit objectives

The audit objectives were to assess whether:

- (i)** The Irrigation Projects deliverables were planned, executed and managed in accordance with the intended objectives;
- (ii)** Coordination with all stakeholders was ensured at all stages for sustainable extension of benefits and achievement of intended outcomes.

2.2 Audit criteria

The Performance Audit derived the criteria from the following sources:

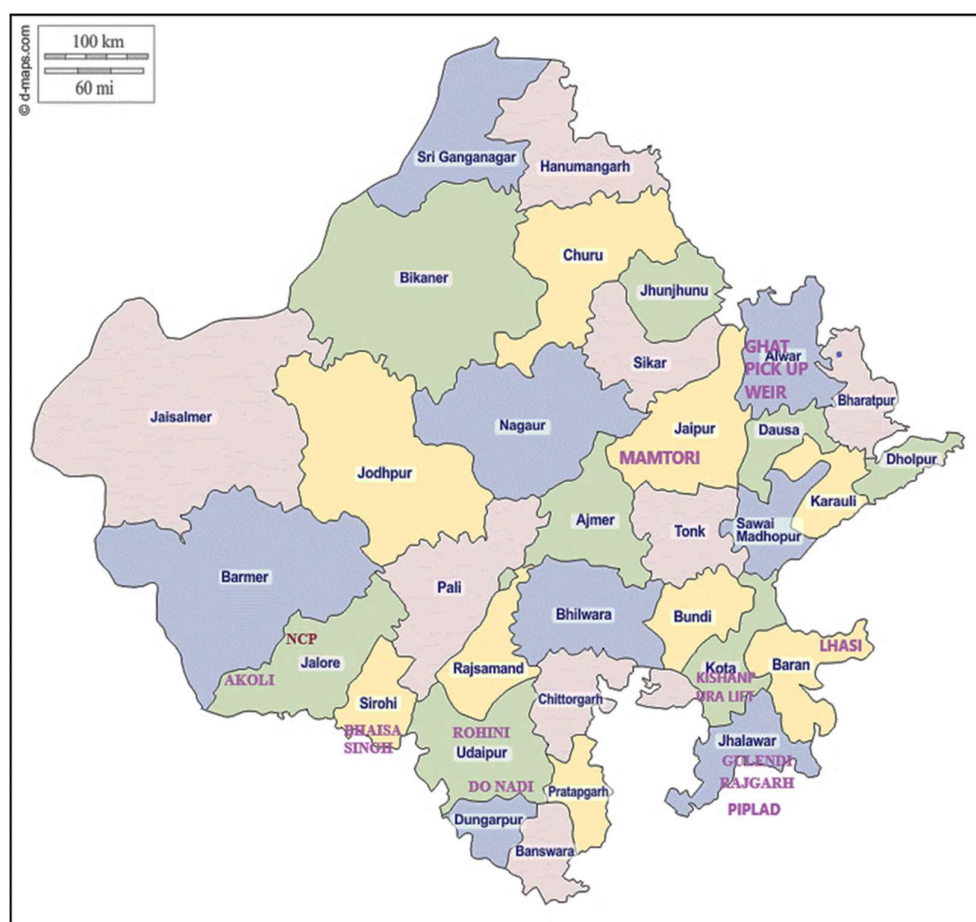
- (i)** Irrigation Manual
- (ii)** Public Work Finance and Accounts Rules (PWF&AR)
- (iii)** Guidelines issued by Central Water Commission (CWC) for preparation of DPRs 2010 and DPRs of selected projects
- (iv)** Forest Conservation Act, 1980
- (v)** Environment (Protection) Act, 1986 and Environment Impact Assessment Notification, 1994 and subsequent amendments
- (vi)** Land Acquisition Act, 1894 and subsequent orders
- (vii)** Government Resolutions and Instructions/Orders
- (viii)** CWC guidelines, 2002 for Performance evaluation of irrigation system
- (ix)** National Resettlement and Rehabilitation Policy
- (x)** Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013
- (xi)** National and State Water Policy

2.3 Audit scope and selection of projects for scrutiny

The field study covered period from April 2014 to March 2019. Performance Audit was conducted during the period November 2019 to February 2020 of selected ongoing/completed projects. However, on the basis of replies and information, this was updated up to March 2020. The PA covered the activities executed in the projects since their inception.

For detailed scrutiny, the Performance Audit covered a sample of one Major¹, three Medium² and eight Minor³ irrigation projects ongoing/completed during January 2011 to March 2017. Presently, eight projects are completed⁴ and four are ongoing. The major project (NCP) was selected on the request of Secretary (WRD) during the entry conference. The other projects were selected through random sampling using IDEA software.

The locations of the selected projects are depicted in the following map:



¹ Narmada Canal Project.

² Piplad, Lhasi and Rajgarh.

³ Akoli, Bhaisa Singh, Do Nadi, Gulendi, Ghat Pick up Weir, Kishanpura, Mamtori and Rohini.

⁴ Piplad, Akoli, Do Nadi, Gulendi, Ghat Pick up Weir, Kishanpura, Mamtori and Rohini.

Table 2.1: Details of the Selected projects

Name of Projects and components	Project Commencement and Completion month	Source of water and Location	Sanctioned Project cost (₹ in crore)	Expected outcomes i.e. creation of IP in ha (based on the DPR)	Project area (CCA in hectare)
Narmada Canal Project	03/1996, Ongoing	Narmada River (Jalore)	3,124	1.51 lakh	2.46 lakh
Lhasi Medium Irrigation Project	05/2007, ongoing	Lhasi River (Baran)	204.23	2,609	2,539
Piplad Medium Irrigation Project	08/2006 and 12/2018	Piplad River (Jhalawar)	91.21	3,549	4,688
Rajgarh Medium Irrigation Project	06/2012, ongoing	Ahu & Kanthari River (Jhalawar)	386.82	8,568	6,827
Akoli Minor Irrigation Project	12/2011 and 09/2017	Bandi River (Jalore)	21.81	458	539
Bhaisa Singh Minor Irrigation Project	10/1978, ongoing	Sukdi River (Sirohi)	18.18	350	419
Do Nadi Minor Irrigation Project	09/1996 and 06/2010	Som River (Udaipur)	9.09	547.12	316
Ghat Pick up Weir Minor Irrigation Project ⁵	09/2007 and 04/2014	Ruparail River (Alwar)	15.03	0	0
Gulendi Minor Irrigation Project	11/2000 and 11/2011	Gulendi River (Jhalawar)	30.21	2,535	1,950
Kishanpura Minor Irrigation Project	07/1999 and 02/2012	Chambal River (Kota)	7.20	1,455	1,938
Mamtori Minor Irrigation Project	08/2008 and 02/2019	Banganga River (Jaipur)	1.14	64	78
Rohini Minor Irrigation Project	07/1999 and 10/2013	Local Nallah (Udaipur)	9.53	365.94	276

2.4 Audit Methodology

The field study was conducted for the period April 2014 to March 2019. Audit scrutinised the records at the offices of the Chief Engineer/Zone offices⁶/Circle

⁵ For flood irrigation, during rainy season.

⁶ Kota, Jaipur, Udaipur and Jodhpur.

Offices^{7/} Executive Engineers⁸ of WRD and line departments (i) Deputy Directors, Agriculture⁹, (ii) Executive Engineers¹⁰ of Public Health Engineering Department (PHED) and (iii) Tehsils¹¹ of Revenue Department. Further, joint site visits/physical verification of the selected projects was also conducted by audit.

An entry conference was held with Secretary WRD on 17 September 2019, in which the audit methodology, scope, objectives and criteria were discussed. An exit conference was held with Principal Secretary WRD and his team on 05 March 2021 wherein the findings of the Performance Audit and reply given by the Department were discussed. In respect of some points, the officers of the Department put forth certain additional facts and desired to give supplementary reply. Accordingly, the supplementary reply was also furnished on 10 March 2021. The reply given by the Department has been factored in drafting the Report. Audit acknowledges the cooperation and assistance extended by the Departments and test checked units visited in conducting the performance audit.

2.5 Audit approach to assess outcomes in Surface Irrigation

Outcomes are generally measured in terms of achievement of the long-term goals of a project. For any irrigation project, creation and utilization of the contemplated irrigation potential is the primary objective. This would increase the agricultural production and yield, provide water for drinking purpose and pisciculture, increase tourism etc.

Audit assessed the outcomes in surface irrigation by scrutinizing the Detailed Project Report (DPR), which is prepared before commencement of the project. The quantifiable benefits arising from Benefit-Cost Ratio (BCR) bench marks, change in cropping patterns and establishment of Participatory Irrigation Management were scrutinized in the project executing agency (WRD) and line departments i.e. Agriculture Department and PHED through applicable rules, regulations and records.

2.6 Audit Constraints

During the course of study of outcomes in surface irrigation, audit requested for some basic information/records from the department. However, even after repeated requests, the following information were not provided to audit.

- (i) Preliminary surveys were necessary for preparing the proposals for the projects. Records related to preliminary survey, proposals and correspondences were not made available.

⁷ Baran, Bharatpur, Jaipur, Jhalawar, Jodhpur, Kota, Sanchore and Udaipur.

⁸ Jaipur, Alwar, Kota, Jhalawar, Chhabra, Bhawani Mandi, Sanchore (I to V), Jalore, Sirohi, Salumbar, Udaipur and Aklera.

⁹ Baran, Jaipur, Jalore, Jhalawar, Kota and Udaipur.

¹⁰ Sanchore, Bhawani Mandi, Abu Road, Chhabra, Jhalawar and Salumbar.

¹¹ Kota, Bhawani Mandi, Aklera, Kotra, Kherwada, Jalore and Sanchore.

- (ii)** Data in respect of ground water and revenue for the period prior to DPR was not made available.
- (iii)** Data of project specific crop yield were not captured by the Agriculture Department.

In order to assess outcome of projects, project wise data were necessary. However, project wise performance data were not maintained by the Department. The data was maintained for individual districts as a whole, from which the outcome derived from the individual project cannot be identified. In absence of availability of data and desired records with Department, audit could not ascertain the project-wise comprehensive outcome precisely.

State Government replied (March 2021) that all the relevant documents were submitted. Reply is not factual as the information mentioned above was not made available to audit.