

Chapter-II

Evaluation of schemes for installation of Water Treatment Plants

Chapter-II

WATER SUPPLY AND SANITATION DEPARTMENT

Evaluation of schemes for installation of Water Treatment Plants

The State had decided to install 1,258 number of RO plants for which ₹ 187.51 crore was earmarked. Out of these, tender process was started for 703 plants with an assessed cost of ₹ 105.64 crore, against which 580 RO plants were installed at a cost of ₹ 80.14 crore. Thus, the Department could have benefitted 2,70,781 households by installing all the planned 703 RO plants but fell short of the planned coverage by about 40,000 households.

Further, the Department failed to install 97 RO plants as tenders were not finalised and 44 *per cent* available funds under special assistance by NITI Aayog was not utilised by the Department due to dropping/non-taking up/incomplete RO plants. 92 RO plants were left incomplete after incurring an expenditure of ₹ 7.47 crore under NABARD XIX. The penetration level of installed RO plants was not satisfactory as it was below 10 *per cent* in respect of 300 RO plants and the penetration level of 42 *per cent* RO plants was not available. Water rejected from the RO plants was not being disposed in a scientific manner.

2.1 Introduction

Provision of safe drinking water is essential for promoting public health and for preventing and controlling water borne diseases. Water Supply and Sanitation (WSS) Department (Department), Government of Punjab is responsible to provide potable water to the rural habitation through canal and ground water sources. Providing safe drinking water and improvement of water quality is also one of the goals of the United Nations' Sustainable Development Goals (SDG) under SDG 6. The Department got (between 2013 and 2016) three schemes¹ approved costing ₹ 218.80 crore for installation of 1,442 Water Treatment Plants² (WTP) in Punjab with the objective to provide potable water to the rural habitations as the quality of water was not potable due to presence of Fluoride, Arsenic, Uranium, Total Dissolved Solids (TDS) etc. beyond the acceptable³ limit in the ground water.

¹ (i) Installation of RO Plants to provide drinking water in heavy metals affected districts of Punjab under Rural Infrastructure and Development Fund (RIDF)-XIX (NABARD); (ii) Special assistance of Central Plan scheme on recommendation of NITI Aayog for mitigation of Drinking Water Problems; and (iii) Installation of RO Plants to provide drinking water in heavy metals affected districts of Punjab under RIDF-XXII (NABARD).

² Reverse Osmosis Plants (RO plants) and Arsenic Removal Plants (ARP).

³

Heavy metal/uranium etc.	Acceptable limit	Test results
Fluoride	1.0 mg/l	1.03 to 5.35 mg/l
Arsenic	0.01 mg/l	0.011 to 0.077 mg/l
Uranium	60 µg/l	60.40 to 233.7 µg/l
TDS	500 mg/l	503 to 1890 mg/l

With a view to assess implementation of schemes relating to installation of water treatment plants, Audit covered the aforesaid three schemes implemented with the financial assistance from NABARD and Government of India. The schemes were to be implemented in 28 divisions located in 17 districts of Punjab. However, the schemes were implemented in 16 districts (*Appendix 2.1*). Records of nine divisions⁴ falling in seven districts⁵ were checked for the period 2017-18 to 2019-20 during February 2021 and March 2022. Besides, data of remaining 19 divisions has been updated, wherever necessary, by collecting the information from the Head Office of Department of Water Supply and Sanitation, Punjab. The records examined include project reports, provisions of contract agreements, Detailed Notice Inviting Tender (DNIT) and Government instructions issued from time to time.

A mention was made in paragraph 3.20 of the Report of the Comptroller and Auditor General of India on Social, General and Economic Sectors (Non-PSUs) for the year ended 31 March 2014 in respect of installation, operation and maintenance of RO plants. The paragraph was discussed in the Public Accounts Committee (PAC) in December 2017 and February 2021. Compliance of PAC's recommendations was also examined and has been incorporated under the relevant paragraphs.

Audit findings

Audit findings in respect of preparation of plan, financial management, implementation and monitoring of installed WTPs are discussed in the succeeding paragraphs.

2.2 Implementation of approved plan

The details of water treatment plants, approved cost and installation thereof are given in **Table 2.1**.

⁴ Water Supply and Sanitation Division (i) No. 1, Amritsar; (ii) SBS Nagar; (iii) Fatehgarh Sahib; (iv) Rajpura; (v) Batala; (vi) Gurdaspur; (vii) Patiala; (viii) SAS Nagar; and (ix) Barnala.

⁵ (i) Amritsar; (ii) Barnala; (iii) Fatehgarh Sahib; (iv) Gurdaspur; (v) Patiala; (vi) SBS Nagar; and (vii) SAS Nagar.

Table 2.1: Scheme-wise status of Water Treatment Plants

Scheme	Year of commencement of scheme	Period of Audit	No. of plants sanctioned (Village to be covered)	Cost of project (₹ in crore)	No. of plants dropped (Villages where plants dropped)		No. of plants taken up (Villages)	No. of plants actually installed	No. of plants not installed despite allotment
					At initial stage	RO plants after tender			
Installation of RO Plants under RIDF-XIX (NABARD)	2013-14	2017-18 to 2019-20	561(546)	88.75 ⁶	29(26)	--	532 (520)	440	92
Installation of WTP out of special assistance of NITI Aayog	2015-16	-do-	326 ⁷ (182)	39.82 ⁸	50 ⁹ (34)	97(95)	179 ¹⁰ (53)	148 ¹¹	31
Installation of RO plants under RIDF-XXII (NABARD)	2015-16	-do-	555(546)	90.23	--	458(449)	97(97)	97	0
Total			1,442(1,274)	218.80	79(60)	555(544)	808 (670)	685¹²	123

Source: Departmental data

From the above table it is seen that:

- Out of 1,442 WTPs planned the Department dropped 634 WTPs¹³ (which were to cover 604 villages) due to improvement of water quality, merger with Municipal Council (MC) due to change in jurisdiction, non-availability of land, coverage under other schemes etc. This indicates deficiencies in preparation of preliminary estimates, as aspects such as availability of land, convergence with other schemes are not expected to be missed out in preliminary estimates.
- Under special assistance by NITI Aayog, tenders for installation of 171 RO plants in five districts¹⁴ were invited (October 2016). Two bidders were selected (December 2016) for installation, operation and maintenance of 74¹⁵ RO plants. The tenders for 97 RO plants were not accepted (December 2016) due to higher rates and non-uploading the tenders (in one district viz. SAS Nagar) and Tender Processing Committee desired recall of tenders. Accordingly, the tenders were re-called in May 2017 which did not materialise due to higher rates quoted. Thereafter the tenders were not called for again. Further, the Department stated (December 2021) that the

⁶ Revised to ₹ 83.88 crore after dropping 29 RO plants.

⁷ RO plant-208, ARP-96 and Handpumps-22; installation of domestic ARPs and new projects.

⁸ 208 RO: ₹ 14.16 crore; 96 ARP: ₹ 21.97 crore; Hand pump: ₹ 0.26 crore; Domestic ARP: ₹ 0.04 crore; and new projects for fluoride and arsenic affected habitation: ₹ 3.39 crore.

⁹ RO plant-37, ARP-13 and new projects.

¹⁰ RO plant-74, ARP-83, Hand pumps-22.

¹¹ RO plant-43, ARP-83, Handpumps-22.

¹² RO plant-580, ARP-83, Hand pumps-22.

¹³ 79 WTP-Dropped at initial stage; 458 WTP: Dropped due to non-availability of land, covered under other scheme, change in capacity of WTP improvement of water quality and 97 WTP: tenders not finalised.

¹⁴ (i) Fatehgarh Sahib: 36; (ii) Ferozepur: 7; (iii) Patiala (Rajpura): 81; (iv) Sangrur: 29; and (v) SAS Nagar: 18.

¹⁵ 38 RO plants in cluster-1 (Patiala-Rajpura) and 36 RO plants in cluster-3 (Fatehgarh Sahib).

implementation of remaining RO plants had been called off. Replies of the divisions were also awaited (March 2022) despite being called for (December 2021).

Thus, the approved 97 RO plants were not installed which resulted in denial of benefit to the affected habitations as well as non-utilisation of funds received under NITI Aayog, as discussed in Paragraph 2.4.1.

- Under NABARD-XXII, 555 RO plants in 546 villages were approved (July 2016). Tenders were called (October 2016) for 533 RO plants which did not mature due to higher rates quoted by bidders. Further, the Department recalled the tenders in May 2017 which also did not mature for reasons not on record.

Out of 555 RO plants, the Department dropped (April 2018) 217 RO plants due to improvement of water quality and 184 RO plants in anticipation of improvement in water quality. Reasons for the same were not given by the Department on the pretext that these would be available with divisional formations. The revised project of 154 RO plants was submitted to NABARD (April 2018) and the requirement was further reduced by 11 on suggestion by NABARD. Thus, the revised project of ₹ 20.86 crore was approved (June 2018) for 143 RO Plants. Another 46 RO plants were again dropped (between November 2020 and December 2021) due to non-availability of land, improvement of water quality, non-allowing by Gram Panchayat and transfer to MC area, etc.

Further, audit verified the data of water quality as available on the website of Department in respect of 604 villages which were dropped from the three schemes as discussed above. It was seen that the water quality in 429 villages was potable and in 175 villages it was not potable as per test report (April 2021)¹⁶. Thus, the dropping of RO plants in these 175 villages was incorrect.

Dropping of already planned/approved RO plants in a phased manner during 2016-21 reflects lack of commitment of the Department towards providing the intended benefits to the targeted population.

2.3 Financial management

Funds received and expenditure under all the three schemes are given in **Table 2.2**.

¹⁶ Source: dwss.punjab.gov.in.

Table 2.2: Funds received and expenditure*(₹ in crore)*

Name of scheme	Cost of project	Funds received	Expenditure	Funds not utilised	Remarks
Installation of 532 RO Plants under RIDF-XIX (NABARD)	88.75	70.64	70.64	--	Variation between expenditure and project cost was due to dropping of 29 RO plants and dispute in respect of 92 RO plants.
Installation of WTP under NITI Aayog (CSS)	39.82 ¹⁷	39.35	21.85	17.50	The expenditure was less due to dropping of 178 WTP.
Installation of 555 RO under RIDF-XXII (NABARD)	90.23	15.34	6.69	8.65	The variation between approved project cost and expenditure was due to dropping of RO plants.
Total	218.80	125.33	99.18	26.15	

Source: Departmental data

From the above table it is evident that:

- As against the project cost of ₹ 39.82 crore, ₹ 39.35 crore were released (March 2016) by GoI under special assistance by NITI Aayog. Out of ₹ 39.35 crore, ₹ 21.85 crore (55.53 per cent) only could be utilised (May 2021) and ₹ 17.50 crore (44.47 per cent) was not utilised by the Department due to dropping of 50 WTP (37: RO plant and 13: ARP) at initial stage, non-retendering of 97 RO plants, incomplete work of 31 RO plants and non-starting of new projects for fluoride and arsenic affected habitation.
- NABARD released (March 2017) ₹ 15.34 crore to State Government as mobilisation advance, against which expenditure of ₹ 6.69 crore was incurred (December 2021) on the project and balance of ₹ 8.65 crore was lying with Government.

The replies of audit observations were awaited (November 2022), despite being called for (February 2022).

2.4 Implementation of schemes

2.4.1 Incomplete works

(i) The work of installation of 74¹⁸ RO plants under special assistance by NITI Aayog was allotted (December 2016) to the contractors at a cost of ₹ 6.42 crore (₹ 3.33 crore: 38 RO plants-work A and ₹ 3.09 crore: 36 RO plants-work B) on Build-Own-Operate-Transfer (BOOT)¹⁹ basis for operation and maintenance of seven years to be done by contractor. The works were to be completed within four months i.e. by April 2017.

(a) Work 'A' was not completed within the stipulated period and time extension was granted upto July 2017 due to imposition of model code of

¹⁷ 208 RO Plants: ₹ 14.16 crore; 96 ARP: ₹ 21.97 crore; Hand pump: ₹ 0.26 crore, Domestic ARP: ₹ 0.04 crore; and New projects for fluoride and arsenic affected habitation: ₹ 3.39 crore.

¹⁸ Executive Engineer, Water Supply and Sanitation Divisions (i) Rajpura: 38 RO plants; and (ii) Fatehgarh Sahib: 36 RO plants.

¹⁹ BOOT is the term of Public Private Partnership.

conduct in view of Punjab Assembly elections. However, out of 38 RO plants, the work of 24 RO plants was completed (July 2019) for which ₹ 1.79 crore were paid to the contractor and the work of remaining 14 RO plants was not completed by the contractor. It is pertinent to mention here that the Executive Engineer imposed the penalty²⁰ and agreement was alive. Thus, the fact remains that the installation work of 14 RO plants was pending despite availability of funds under the scheme.

(b) Similarly, the contractor did not complete work 'B' within the stipulated period and even within the extended period upto December 2017. The Department had written (April 2019) to the contractor and ordered to complete the work upto May 2019. Out of allotted 36 RO Plants, only 19 RO plants were completed (between March 2017 and December 2018) at a cost of ₹ 1.30 crore out of which ₹ 1.02 crore²¹ had been paid to the contractor. In this case penalty²² was also imposed and agreement was terminated in August 2019. Thus, remaining 17 RO plants were still lying incomplete. Further, out of 19 RO plants, two RO plants were also physically verified (November 2020 and December 2021) by Audit, out of which one was found non-functional, and the penetration was only 11.54 *per cent* (15 households out of 130) in respect of the second RO plant.

The Department replied (November 2020, December 2021 and March 2022) that work of installation of the remaining 14 RO plants and 17 RO plants in respect of works 'A' and 'B' respectively were dropped due to various reasons²³. The reply indicates that the preliminary survey/planning of the project was not done with due diligence which led to inclusion of non-feasible sites in the project and which had to be dropped subsequently even after allotment of works. This also led to denial of intended benefit to the habitations in the area where RO plants were not installed.

2.4.2 Avoidable expenditure on installation of Arsenic Removal Plants (ARPs)

Under NITI Aayog's sponsored project, 96 ARPs in 102 villages were approved (September 2016) by GoI at a cost of ₹ 21.97 crore as the Arsenic was found in the water of these villages beyond the prescribed limit²⁴. Out of 96 ARPs, works of 83 ARPs²⁵ in five²⁶ districts were allotted (May 2017) at a

²⁰ Under the clause 2 of the agreement of ₹ 16.63 lakh which was reduced by SE to ₹ two lakh.

²¹ Work cost - ₹ 1.30 crore, payment made to contractor - ₹ 1.02 crore. Balance payment of contractor- ₹ 0.28 crore, penalty imposed and retention money of contractor - ₹ 0.27 crore, pending liability to be paid to contractor - ₹ 0.01 crore (i.e. ₹ 1.30 crore *minus* ₹ 1.29 crore).

²² ₹ 23.20 lakh.

²³ Covered under MC area, RO plant installed by villagers, land was not available, etc.

²⁴ 0.01 milligram per litre.

²⁵ 13 ARPs were dropped from those villages where more than one ARPs were to be installed with less capacity. The capacity of ARP was enhanced and only one ARP was installed instead of two or more.

²⁶ (i) Amritsar; (ii) Gurdaspur; (iii) Hoshiarpur; (iv) Roopnagar; and (v) Tarn Taran.

cost of ₹ 21.69 crore and these were installed between November 2017 and July 2019 after incurring an expenditure of ₹ 18.65 crore (as of May 2021).

Audit noticed (February 2021) that out of 83 ARPs, in Water Supply and Sanitation Division No. 1, Amritsar, 11 ARPs costing ₹ 2.54 crore were installed (between November 2017 and September 2018) in eight such villages²⁷ of Amritsar district where RO plants were also installed (between August 2016 and June 2017) for removal of Arsenic, after incurring an expenditure of ₹ 1.06 crore.

On being pointed out (February 2021), the Executive Engineer stated (March 2021) that ARP was the need of the hour and was in public interest. The reply of the EE was not acceptable as the Department itself was of the view (July 2018) that ARPs should not be installed in habitations which already stand covered under other schemes.

Since the purpose of both types of plants was to provide safe drinking water to the villagers by removing impurities from ground water, the decision to install ARPs in same village where RO plants were already installed resulted in avoidable expenditure of ₹ 2.54 crore.

2.4.3 Unfruitful expenditure on incomplete RO plants

The works of installation of 532 RO plants sanctioned (April 2013) for ₹ 83.88 crore under NABARD XIX scheme, were allotted to four agencies²⁸ during December 2013 and January 2014 which were due for completion as of May 2014. Out of the allotted 532 RO plants, 431 RO plants allotted to three agencies²⁹ were commissioned during 2013-14 to 2018-19.

Scrutiny of records (July 2019) and subsequent information collected from the Department³⁰ revealed that the work of the remaining 101 RO plants in six Divisions³¹ was allotted (between December 2013 and January 2014) at a cost of ₹ 12.83 crore which were to be completed between April and May 2014. However, the contractor could not complete the works within stipulated period despite an amount of ₹ 6.18 crore³² having been paid to the contractor against the material/machinery provided in respect of 67 RO plants and ₹ 1.29 crore

²⁷ (i) Bhakha Hari Singh; (ii) Kamalpura; (iii) Urdhan; (iv) Bhullar; (v) Hetampura; (vi) Manawala; (vii) Pandher; and (viii) Modey.

²⁸ (i) M/s Hi-Tech Sweet Water Pvt. Ltd. (232 RO plants), (ii) M/s SR Paryavaran (P) Ltd. (139 RO plants), (iii) M/s Garg Sons (60 RO plants) and (iv) M/s Doshion Veolia Water Solution Pvt. Ltd. (101 RO plants).

²⁹ (i) M/s Hi-Tech Sweet Water Pvt. Ltd. (232 RO plants), (ii) M/s SR Paryavaran (P) Ltd. (139 RO plants), and (iii) M/s Garg Sons (60 RO plants).

³⁰ The EEs of the respective WSS Divisions and Office of Head, Department of Water Supply and Sanitation, Punjab.

³¹ WSS Divisions-(i) Rajpura; (ii) No. 2 Patiala; (iii) Barnala; (iv) Batala; (v) Gurdaspur; and (vi) SBS Nagar.

³² WSS Divisions-(i) Rajpura: ₹ 1.97 crore; (ii) No. 2 Patiala: ₹ 0.96 crore; (iii) Barnala ₹ 1.62 crore; (iv) Batala: ₹ 0.69 crore; (v) Gurdaspur: ₹ 0.13 crore; and (vi) SBS Nagar: ₹ 0.81 crore.

was also incurred by the Department for providing tubewells, electricity and other miscellaneous services. The reasons for non-completion of project by the contractor were not on record. Further, due to non-completion of works, the EEs concerned imposed (between May 2015 and March 2018) penalty of ₹ 0.96 crore³³ under the clauses 2 and 3 of agreement³⁴ and the contracts were terminated (between August 2017 and April 2018). Out of ₹ 0.96 crore, ₹ 0.53 crore was recovered from the contractor.

The contractor approached (October 2018) various arbitrators against the decision of the Department. However, the Department called (July 2019) the tenders for the balance work but the tenders did not materialise into an agreement. Further, the arbitrations cases were dismissed (July and August 2020) by the Arbitrators.

Meanwhile, the installation work of nine RO plants had been completed by the Department itself. Thus, 92 RO plants were still lying incomplete and no action had been taken by the Department after July 2019.



On being pointed out, the Department stated (December 2021) that 92 RO plants were under Arbitration. Reply is not acceptable as (a) the arbitration cases had been terminated between July and August 2020; and (b) arbitration proceedings are not expected to impact the completion of ongoing works/projects. This shows the negligence of the Department in installation of RO plants despite incurring huge expenditure.

Machines lying idle in Kharajpur and Islampur, Rajpura (29.12.2021)

Thus, the Department failed to get installed balance 92 RO plants even after lapse of more than seven years of its approval which resulted in depriving the inhabitants of the villages of safe potable drinking water despite incurring a net expenditure of ₹ 7.47 crore³⁵ which had not proved fruitful.

2.4.4 Low penetration of the installed RO plants

As per conditions of allotment letter for installation of RO plants, the contractor was fully responsible for conducting Information, Education and Communication (IEC) activities, awareness campaign and collection of water tariff etc. Similarly, under the NABARD-XIX Scheme, contractor was responsible to increase the penetration level as operation and maintenance was

³³ WSS Divisions-(i) Rajpura: ₹ 0.34 crore; (ii) No. 2 Patiala: ₹ 0.12 crore; (iii) Barnala: ₹ 0.22 crore; (iv) Batala: ₹ 0.15 crore; (v) Gurdaspur: ₹ 0.04 crore; and (vi) SBS Nagar: ₹ 0.09 crore.

³⁴ Clause-2 and 3 of agreement “The time allowed for carrying out the work shall be the essence of the contract and shall be strictly observed failing which a penalty limited to 7.5 per cent of the amount of contract shall be levied as liquidated damages”.

³⁵ Contractor’s payment: ₹ 6.18 crore and expenditure made by Department: ₹ 1.29 crore.

the responsibility of the contractor. However, the penetration level³⁶ of installed RO plants was not satisfactory as given in **Table 2.3**.

Table 2.3: Penetration level of installed RO plants

Name of scheme	Total RO installed	RO having penetration Zero	Penetration between 0 and 10 per cent	Penetration between 10 and 25 per cent	Penetration more than 25 per cent	Records not available
Installation of RO Plants under RIDF-XIX (NABARD)	440	--	227	--		213
Installation of water treatment plants out of Special assistance on recommendation of NITI Aayog	43	8	18	4		13 non-functional
Installation of RO Plant under RIDF-XXII (NABARD)	97	25	22	12	10	28
Total	580	33	267	16	10	254

Source: Departmental data

It is evident from the above table that:

- information in respect of 326 RO plants (56 per cent) was provided. The penetration in respect of 300 (92 per cent) out of 326 plants was below 10 per cent.
- Audit further observed that there was zero penetration in respect of eight RO plants due to non-appointment of RO operator by the contractor or the plants being at a distance from the beneficiaries' residences and 13 RO plants were found non-functional.
- joint physical verification of 11³⁷ RO plants was done (December 2021), out of these the penetration level of nine RO plants was ranging between zero and 23.80 per cent and two RO plants were found non-functional in Rajpura.

The PAC while discussing paragraph 3.20.3.2(a) of the CAG's Audit Report for the year ended 31 March 2014, recommended (December 2017) that where the water quality is affected, the Department should involve local representatives and social organisations to motivate the villagers to use RO water for drinking purpose. The Department assured to take corrective action in future on the recommendation of PAC.

While accepting the audit observation, the Department stated (March and December 2021) that there was a need of continuous IEC activities to encourage the villagers to use RO water. Thus, despite the recommendation of PAC and assurance given by the Department, the corrective measures were not taken.

³⁶ Number of Households taking water from RO against the total Households.

³⁷ Rajpura-06 and Fatehgarh Sahib-05.

2.4.5 Improper disposal of water rejected from the RO plants

As per terms of contract, it is the responsibility of the contracted agency to dispose of rejected water into a nearby pond after treating with alum and charcoal/carbon (treatment chamber). The concentrated solid chemicals containing heavy metals was to be disposed in accordance with Punjab Pollution Control Board (PPCB) guidelines at the site approved by the PPCB minimum after every six months. Also as per Rule 8(A)(3) of the Hazardous Wastes (Management and Handling) Rules, 1989 made under the Environment (Protection) Act, 1986, the Punjab Pollution Control Board was to monitor the setting up and operation of the disposal facility for hazardous waste.

It was noticed (between February 2021 and December 2021) that under NABARD-XIX, 440 RO plants were installed in 21 Divisions. Further, the records of 12 Divisions (292 RO plants) were made available to Audit. Out of this, in two divisions³⁸ (seven RO plants), the rejected water was being disposed of properly. In remaining ten divisions, the rejected water of 29 RO plants was being disposed of properly whereas in respect of 256 RO plants neither the contractor nor the Department made any arrangement for disposal of the rejected water as provided in the agreement (*Appendix 2.2*).

The outcome of joint physical verification of 11 RO plants (December 2021) showed that two plants (Rajpura) were non-functional. There was no proper arrangement of disposal of rejected water in the remaining nine RO plants as the *Haudi* was constructed but treatment with alum and charcoal/carbon was not found to be done. There was nothing on record to suggest that Punjab Pollution Control Board (PPCB) had taken any action in respect of disposal of rejected water in the pond as provided in the agreement, indicating lack of monitoring on PPCB's part.



Disposal of water of RO plant at Shergarh (Fatehgarh Sahib) 21.12.2021

On being pointed out (February, March 2021 and December 2021), the EE, WSS Division, Fatehgarh Sahib admitted to the facts. The EE, WSS Division, Rajpura stated that efforts were being made to operate the non-functional RO plants and arrangements for proper disposal of the rejected water would be made as per agreements. The EE, WSS Division No. 1, Amritsar stated (December 2021) that recovery would be made. Reply of the Department in respect of these two Divisions was not acceptable because no responsibility of delinquent agencies/departmental officers was fixed. Moreover, in such cases, PPCB should take appropriate action against their officials for lack of proper monitoring on their part. Replies from seven Divisions were awaited (November 2022).

³⁸ Water Supply and Sanitation Divisions: (i) No. 1, Hoshiarpur-two RO plants; (ii) No. 2, Hoshiarpur-five RO plants.

Thus, due to non-implementation of the agreement clause, the rejected water was either being disposed of in nearby ponds or in open area which ultimately was leaching back into the earth contaminating the ground water again.

2.4.6 Testing of RO treated water

As per clause 7.2.4 and 7.2.8 of the agreement, the contractors should have their own testing facilities to analyse the water samples for all parameters once in a month. The water quality was also required to be tested in the laboratories of the Department.

Scrutiny of records (November and December 2021) revealed that 580 RO plants were installed in 28 divisions. Thus, the treated water was required to be tested by contractor as well as by the Department. However, the water testing report was not provided by 27 divisions whereas the test reports were provided only by one division³⁹ in respect of 12 RO plants. After analysing these reports it was found that the treated water was fit for consumption as the results were within the acceptable limit.

During physical verification of 11 RO plants, it was noticed that testing of RO water was neither being done by the contractor nor by the Department in all nine functional RO plants (Rajpura- 04 and Fatehgarh Sahib-05) in violation of the provisions of the agreement.

On being pointed out, the EE, WSS Division, Rajpura stated that samples would be tested, and report would be sent to Audit whereas the EE, WSS Division, Fatehgarh Sahib only accepted the facts.

2.5 Conclusions

The State had decided to install 1,258 number of RO plants for which ₹ 187.51 crore was earmarked. Out of these, tender process was started for 703 plants with an assessed cost of ₹ 105.64 crore, against which 580 RO plants were installed at a cost of ₹ 80.14 crore. Thus, the Department could have benefitted 2,70,781 households by installing all the planned 703 RO plants but fell short of the planned coverage by about 40,000 households.

Further, the Department failed to install 97 RO plants as tenders were not finalised and 44 *per cent* available funds was not utilised by the Department due to dropping/non-taking up/incomplete RO plants under special assistance by NITI Aayog. 92 RO plants were not got installed even after incurring of ₹ 7.47 crore under NABARD XIX as the contractor left the work incomplete. The penetration level of installed RO plants was not satisfactory as it was below 10 *per cent* in respect of 300 RO plants and the penetration level of 42 *per cent* RO plants was not available. Water rejected from the RO plants was not being disposed of in a scientific manner.

³⁹ Water Supply and Sanitation Division No. 2, Jalandhar.

2.6 Recommendations

The Government may consider the following:

- (a) take adequate steps to complete all the incomplete works on priority so that the potable water could be provided to the habitations;*
- (b) completed projects should be operated and maintained properly;*
- (c) take action to increase the penetration level of the completed RO plants; and*
- (d) responsibility of delinquent agencies/departmental officers should be fixed for improper disposal of rejected RO water and it should be ensured that proper and scientific disposal is done.*

The matter was referred to Government in April 2021; reply was awaited (November 2022).