

**Public Works Department  
(Irrigation Branch)**

**3.2 Water Management for Irrigation**

**Highlights**

- **Against the cultivable areas of 38.21 lakh hectares in the State, 20.54 lakh to 21.35 lakh hectares were actually irrigated during 2001-05.**

*(Paragraph 3.2.19)*

- **Construction of 39 irrigation channels under seven divisions at a cost of Rs 21.30 crore proved unfruitful as these were either non-functional or negligible functional.**

*(Paragraph 3.2.20)*

- **Irrigation potential was created far in excess (by 157 per cent) of the availability of water, even if, share of water from Ravi-Beas rivers is taken into consideration under three irrigation circles. Infrastructure of 222 old channels remained grossly underutilised.**

*(Paragraphs 3.2.21 and 3.2.22)*

- **Construction of Kisanpur Minor by Water Services Division II, Rewari without taking into consideration the availability of water led to unfruitful expenditure of Rs 1.31 crore.**

*(Paragraph 3.2.12)*

- **Avoidable payment of surcharge of Rs 7.39 crore was made due to delay in making payment of energy charges in four Water Services Mechanical Divisions.**

*(Paragraph 3.2.8)*

- **Water Services Mechanical Division, Rewari did not install shunt capacitor at pump house to regulate power factor, which led to payment of penalty of Rs 2.15 crore. Energy charges of Rs 1.01 crore were paid for non-functional pump houses.**

*(Paragraphs 3.2.9 and 3.2.10)*

## Introduction

**3.2.1** Irrigation Department is engaged in the construction and maintenance of canals and drains to regulate water through major and medium irrigation schemes of the Bhakra Canal System and the Western Yamuna Canal System.

Haryana State was created in November 1966 with a total geographical area of 44 lakh hectares and cultivable area of 38.21 lakh hectares. The irrigated area was 21.47 lakh hectares as on 31 March 2001 and decreased to 20.56 lakh hectares as on 31 March 2005. Thus, there was decrease in irrigated area by 0.91 lakh hectares during 2001-05.

## Programme objectives

**3.2.2** The prime objective of the Irrigation Department is to manage the water resources of the State efficiently keeping in view the scarcity of water in the State. Equitable distribution of canal water amongst the beneficiaries is also one of the main objectives.

## Organisational set up

**3.2.3** The Commissioner and Secretary to the Government of Haryana, Irrigation and Power is the administrative head in the Government and is responsible for implementation of policy decisions, programmes and schemes. The Engineer-in-Chief (EIC), Public Works Department (PWD), Irrigation Branch, Panchkula is in overall incharge of the Department and is assisted by five Chief Engineers (CEs), 25<sup>1</sup> Superintending Engineers (SEs) and 89 Executive Engineers (EEs) in the field for execution of works and distribution of water among beneficiaries.

## Audit objectives

**3.2.4** The main objective of the performance audit was to assess the efficacy of planning for implementation of various programmes and to assess whether the intended schemes were implemented economically, efficiently and effectively. The sub-objective of audit were to assess whether:

- planning for formulation of the schemes was proper and availability of water was taken into account while framing the schemes;
- the execution of works was within the time frame and the estimated cost; and

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<sup>1</sup> 15 Water Services Circles, 6 Construction Circles, 2 Vigilance Circles, 1 Project Circle and 1 Workshop Circle.

- the targets for creation of irrigation potential were achieved and how the potential created was utilised.

### Audit coverage

**3.2.5** Records relating to major and minor irrigation schemes for the period 2001-05 were test checked in the office of the EIC, PWD, Irrigation Branch, Haryana, seven circle offices (out of 25) and 26 Divisional offices (out of 89) in seven<sup>2</sup> districts (out of 19) during January–June 2005. The districts for test-check were selected after taking into consideration the magnitude of expenditure and the number of works executed, the scarcity of water in the districts and the operation of three main lift irrigation systems in these areas. The test checked districts covered 39 per cent of the rural population of the State. Out of the total expenditure of Rs 868.92 crore incurred during 2001-05, expenditure of Rs 374.15 crore (43 per cent) was covered in the test-check.

### Financial Management

#### Financial outlay and expenditure

**3.2.6** Budget provision and expenditure on works (Capital and Revenue Heads of account) during the year 2001-05 were as under:

Sr. No.	Year	Budget allotment	Expenditure (Departmental figures)	Difference (Excess (+) Savings (-))
1	2001-02	263.70	267.12	(+) 3.42
2	2002-03	184.76	184.70	(-) 0.06
3	2003-04	192.18	192.00	(-) 0.18
4	2004-05	231.99	225.10	(-) 6.89
<b>Total</b>		<b>872.63</b>	<b>868.92</b>	<b>(-) 3.71</b>

The expenditure included Rs 118.64 crore received during 2001-02 from the World Bank as loan under the Water Resources and Consolidation Project (WRCP), Rs 217.06 crore during 2001-05 from the National Bank for Agriculture and Rural Development (NABARD) as loan for development of rural infrastructure and Rs 36.86 crore during 2002-05 as Central assistance under the Accelerated Irrigation Benefit Programme (AIBP) for the execution of the remaining works of WRCP.

Scrutiny of records brought out the following points.

#### Drawal of funds without immediate requirement

**3.2.7** The letter of credit system (LOC) was introduced in Public Works Department in July 1972 to enforce strict financial control and discipline. The EIC keeps a vigil over the utilisation of LOC. As per Punjab Financial Rules,

<sup>2</sup> Bhiwani, Faridabad, Fatehabad, Jhajjar, Rewari, Sirsa and Sonipat.

as applicable to Haryana, no money is to be withdrawn from the treasury unless it is required for immediate disbursement. Further, under the LOC system, drawal of lumpsum amounts for utilising the same in the next financial year was prohibited.

In six cases of three<sup>3</sup> divisions, Rs 75.10 lakh drawn between August 2003 and May 2004, were utilised after a lapse of two months (Rs 12 lakh), 5 to 10 months (Rs 51.99 lakh) and 10 to 14 months (Rs 11.11 lakh) after their drawal. Similarly, in Mohindergarh Water Services Mechanical Division, Narnaul, Rs 18.82 lakh were spent between June 2003 and February 2004 out of Rs 43 lakh drawn in March 2003 and balance funds of Rs 24.18 lakh were transferred to other divisions during February-March 2004 after a lapse of 11 months to one year. This indicated that the funds were drawn without immediate requirements.

***Avoidable payment of surcharge due to delay in making payment of energy charges***

**Delay in making payment of energy charges led to avoidable payment of surcharge of Rs 7.39 crore**

**3.2.8** Haryana Bijli Vitran Nigam Limited (HBVNL) levies surcharge on delayed payment of energy charges.

In four<sup>4</sup> Water Services (Mechanical) Divisions, energy consumption bills were not paid on due dates which resulted in payment of surcharge of Rs 7.39 crore during 2001-05. As on 31 March 2005, an amount of Rs 86.29 crore on account of energy charges (including surcharge of Rs 17.06 crore) was outstanding.

The Engineer-in-Chief stated (September 2005) that finance department was not releasing timely adequate budget grant for payment of energy charges which resulted in avoidable payment in the form of surcharge and the matter was being pursued with the Government. Thus, there is a need to set right the system of making timely payment of electricity bills to avoid surcharge.

***Avoidable payment of surcharge due to non-installation of shunt capacitors***

**Non-installation shunt capacitors resulted in loss of Rs 2.15 crore**

**3.2.9** Terms and conditions of supply and relevant tariff schedules of Haryana Bijli Vitran Nigam Limited (HBVNL) provide that the minimum limit of standard average power factor should be 0.90 lagging with effect from 1 October 1997. In case the monthly average power factor falls below 90 *per cent*, the consumer would have to pay surcharge at one *per cent* on supply of power (SOP) charges for each *per cent* fall in power factor upto 80 *per cent* and thereafter at 2 *per cent* for each *per cent* fall in power factor. Shunt capacitors were required to be installed alongwith meters to maintain the power factor.

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<sup>3</sup> Gohana Water Services Division, Gohana: Rs 11.11 lakh; Tohana Water Services Division, Tohana: Rs 11.44 lakh and Loharu Water Services Mechanical Division, Charkhi-Dadri: Rs 52.55 lakh.

<sup>4</sup> Loharu Water Services Mechanical Division, Charkhi Dadri, Lift Water Services Mechanical Division, Bhiwani, Water Services Mechanical Division, Rewari and Mohindergarh Water Services Mechanical Division, Narnaul.

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In Water Services Mechanical Division, Rewari, shunt capacitor was not installed with the meter at pump house number JF-I (PH-III). The DHBVNL raised energy bills of Rs 23.55 crore between July 2002 and February 2005, which included Rs 2.15 crore levied as surcharge on account of non-maintenance of prescribed power factor. The failure to install to shunt capacitor resulted in avoidable payment of surcharge amounting to Rs 2.15 crore. The EE admitting (April 2005) that shunt capacitor had not been installed stated that this was due to lack of budget and proposal has now sent for installation of shunt capacitor.

### *Avoidable expenditure on energy charges*

**Avoidable payment of energy charges on non-functional pump houses**

**3.2.10** In Water Services Mechanical Division, Rewari and Mohindergarh Water Services Mechanical Division, Narnaul seven and three pump houses respectively remained non-functional during 2001-05 and 1997-2005 respectively. No electric meters were installed but minimum energy charges of Rs 1.01 crore were paid to DHBVNL during the same period. The Department should have got the electricity connections disconnected, as water was not reaching upto the pump houses. Consequently, payment of Rs 1.01 crore to DHBVNL was unjustified.



**Non-working pump house No. 7 at Dewana Distributary km 29.313**

### **Planning for implementation**

Every project for an irrigation work should contain a report consisting of plans, measurements, quantities, rates and specifications as may be necessary for assessment of the suitability of the designs and the adequacy of the estimated cost of the project. Special attention should be given to the preliminary operations including surveys both for quality of soil and alignment wherever necessary.

Test-check of the records relating to planning of schemes brought out the following points.

***Dropping of schemes due to improper planning***

**Loss of interest of Rs 1.04 crore due to starting of scheme without proper survey**

**3.2.11** Twenty-eight schemes were included in five Rural Infrastructure Development Fund (RIDF) Projects with a sanctioned cost of Rs 26.40 crore during the period September 1999 to March 2003. The projects had funding by NABARD with a loan of Rs 22.66 crore. The NABARD advanced Rs 5.21 crore for the execution of the schemes between January 2000 and July 2003 but the Department could not commence the works. The schemes were dropped two to three years after the approval of the project due to covering of works under other projects, disputes among the farmers, non-obtaining of consent for inter State matters, etc. It was noticed from the files of EIC that these schemes were projected without proper feasibility survey of sites and areas and without resolving the inter State matters as a result of which these had to be dropped. The loan was refunded after 4 to 33 months in 23 cases and in 5 cases the amounts were not refunded even as of March 2005. As a result, the Department had to bear interest of Rs 1.04 crore between January 2000 and March 2005.

The EIC replied (May 2005) that the amount released by NABARD goes into the state kitty against which LOC is allotted on the demand of the Department and Finance Department had utilized the advance on some other schemes of their priority. The reply did not hold good because the State had to bear interest on the advances, which were not utilised on these specific schemes. Further, as per stipulation of NABARD, the funds were to be utilised solely for the purpose for which these were sanctioned.

***Schemes implemented without ensuring availability of water***

**Implementation of scheme without considering availability of water led to unfruitful expenditure of Rs 1.31 crore**

**3.2.12** In Water Services Division-II, Rewari, the construction of Kishanpur Minor taking off from KM 2.701 of the Tankri Distributary was taken up under AIBP. It was projected that water would be received from Jawahar Lal Nehru (JLN) Canal through Tankri Distributary and 1,161 acres would be covered under irrigation. Payment for land amounting to Rs 1.25 crore was deposited with the LAO in March 1999 (Rs 50.59 lakh) and February 2004 (Rs. 74.60 lakh). In the mean time, Rs 5.99 lakh were spent on construction of a minor from RD KM 0 to 1.200 KM. The CE, Lift Canal Unit (LCU) stopped (April 2004) the work due to non-availability of water in canal and observed that this work should have not been proposed by the SE and desired to submit a complete case for denotification of land from KM 1.200 to 3.900. The LAO, Bhiwani and District Attorney, Rewari opined (December 2004) that the said land could not be denotified because award for this land had already been announced.

The Engineer-in-Chief stated (September 2005) that the department was taking action to ensure availability of canal water and the minor would be made functional in due course. The reply is not convincing as the scheme should have been conceived and construction commenced after ensuring availability of water.

The expenditure of Rs 1.31 crore had, thus, become infructuous because of approval of the scheme without ensuring availability of ample water at off take point of the minor.



**Status of Kishanpur Minor at left over point km 1.200**

***Loss of interest due to making payment for land acquisition in advance of requirement***

**Payment made in advance of requirement for land acquisition led to loss of interest of Rs 19.25 lakh**

**3.2.13** As per Punjab Financial Rules, as applicable to Haryana, no money is to be withdrawn from the treasury, unless it is required for immediate disbursement. Further, under instructions of EIC, Irrigation Branch, Haryana, payments for acquisition of land were to be made after the Gazette Notification under Section 6 of the Land Acquisition Act, 1894.

It was noticed that in seven cases of five divisions, advance payments of Rs 1.50 crore were made to various LAOs between August 2001 and March 2003, 14 month to 34 months before the notifications under Section 6 of the Act. The payments were made to LAOs, after taking loan from NABARD, more than 12 months before the notification under Section 6 of the Land Acquisition Act. Had the loan been taken after the notifications under

Section 6 of the Act *ibid*, the burden of interest of Rs 19.25<sup>5</sup> lakh could have been avoided.

### ***Delay in taking refund of unspent funds from LAOs***

**Loss of interest due to delay in obtaining refund of unspent balances from LAOs**

**3.2.14** In 11 cases under five<sup>6</sup> divisions, unspent balances amounting to Rs 5.92 crore, out of land acquisition advances, were refunded after 4 to 29 months of the announcement of land compensation awards by LAOs.

Similarly, in eight cases under four<sup>7</sup> divisions, unspent balances of Rs 96 lakh were not refunded as of March 2005 even after 9 to 75 months of the announcement of land compensation awards by LAOs.

Since the amount was taken from NABARD as loan, retaining of unspent balances unnecessarily with LAOs led to loss of interest of Rs 44.72 lakh at the rates applicable to NABARD loans from time to time for the period till the date of refund in the cases where the refunds had been received and upto 31 March 2005 where the refunds had not been received.

### ***Scheme not started due to slackness***

**Delay in deciding the feasibility of scheme led to escalation of land cost by Rs 8.05 crore**

**3.2.15** The work of constructing effluent channel from KM 0 to 20.500 for providing irrigation from treated effluent of STP, Gurgaon was administratively approved in July 2001 and was sanctioned under RIDF VIII in March 2003. Gazette Notifications under sections 4 and 6 of the land acquisition Act were issued (June-October 2004) for acquisition of 54.66 acres of land. A sum of Rs 5.50 crore was deposited with LAOs, Jhajjar and Gurgaon in January 2005 (Rs 3.50 crore) and March 2005 (Rs 2 crore). The land cost at the time of approval of the project was Rs 3 lakh per acre and the total cost worked out to Rs 1.64 crore. No land had been acquired (June 2005). The LAO, Jhajjar intimated (June 2005) that the land cost had increased to Rs 17.75 lakh per acre (land cost: 12.50 lakh + solatium 30 *per cent* + additional charges 12 *per cent*) and demanded additional funds to announce the land awards. It was noticed in Audit that the project was administratively approved in July 2001 whereas the notification under Section 4 of Land Acquisition Act was issued in June 2004. The acquisition process of land was delayed by three years by the Department due to lack of appropriate decision regarding the feasibility of the project and non-approval of the Longitude Section of the scheme.

The CE, Lift Canal Unit (LCU) pointed out (June 2005) to the SE, Construction Circle, Gurgaon that this situation had arisen due to slackness of

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<sup>5</sup> At the rate of seven *per cent* on Rs 26 lakh for 33 months; Rs 18.40 lakh for 18 months; Rs 20.32 lakh for 15 months; Rs 40 lakh for 14 months; Rs 5 lakh for 26 months; Rs 18 lakh for 34 months; and Rs 22.28 lakh for 20 months.

<sup>6</sup> Tohana Water Services Division, Tohana; Fatehabad Water Services Division, Fatehabad; Construction Division I, Tohana; Palwal Water Services Division, Palwal; and Jind Water Services Division, Jind.

<sup>7</sup> Tohana Water Services Division, Tohana; Fatehabad Water Services Division, Fatehabad; Water Services Division, Bhiwani, and Sirsa Water Services Division, Sirsa.



the field officers. Had work on this scheme been taken up immediately after the sanction of the project, the revision in land cost might not have affected the overall cost of the scheme.

Delay in deciding the feasibility of the project and approval of the required L-section resulted in escalation of land cost by Rs 8.05 crore and non-implementation of project. Further, the Department had to bear interest of Rs 24.18 lakh upto March 2005 on Rs 1.95 crore borrowed from NABARD.

### *Injudicious expenditure on installation of pump house*

**Wasteful expenditure of Rs 8.75 lakh on installation of pump house, which remained non-functional due to shortage of water**

**3.2.16** In Loharu Water Services Division, Charkhi-Dadri, a pump house was constructed during 1996-97 under NABARD project at Chahar Kalan Minor at RD 105 at a cost of Rs 8.75 lakh. It was noticed that the pump house remained non-functional since its completion (March 1997) due to non-availability of water at the off take point of Chahar Kalan Minor. The expenditure incurred on construction of the pump house was wasteful and payment of energy charges amounting to Rs 3.23 lakh made to DHBVNL during 1997-2005 had also proved wasteful.

### *Scheme taken up without proper survey*

**Absence of proper survey led to loss of Rs 24.47 lakh**

**3.2.17** Construction of Khizri Baghpat Minor-RD 0 to 10,500 off taking from WJC Link Channel was approved (September 2001) under RIDF VII with an estimated cost of Rs 2.05 crore. The scheme envisaged providing irrigation in 2,551 hectares.

Notification under Section 4 of the Land Acquisition Act was issued in June 2003 and under Section 6 in May 2004 for acquisition of 43.05 acres of land. Advance of Rs 40 lakh for acquisition of Land was deposited with the LAO, Ambala City in March 2003 though no land had been acquired so far (March 2005). As the strata of soil through which the alignment was to pass, was sandy and mixed with shingle (Bajri) and involved very heavy filling and cutting in the proposed section, the scheme was dropped in November 2004.

The Department took a loan of Rs 84.47<sup>8</sup> lakh for this scheme from NABARD between October 2001 and September 2004 and had to bear interest of Rs 24.47 lakh from October 2001 to March 2005 (at the rate of 7 to 10.5 per cent from time to time) due to improper planning and survey of the scheme.

The EE, Hathni Kund Barrage Division I, Jagadhri intimated (February 2005) that the land compensation was not paid to the land owners. The EE asked (March 2005) the LAO to adjust this amount against the payment for land acquisition of Shahbad-Nalvi Scheme. It was noticed that Shahbad-Nalvi Scheme had not been sanctioned by NABARD and payment for land had not been made so far (June 2005). Further, as per NABARD stipulations, funds drawn for specific schemes were not to be utilised on other schemes.

<sup>8</sup> October 2001: Rs 36.93 lakh; February 2002: Rs 18.46 lakh; December 2002: Rs 10.44 lakh; July 2003: Rs 14.76 lakh; October 2003: Rs 0.68 lakh; January 2004: Rs 2.45 lakh; and September 2004; Rs 0.75 lakh.

Thus, taking up the scheme without assessing its feasibility resulted in loss of Rs 24.47 lakh to the Government.

***Avoidable loss due to injudicious planning at initial stage***

**Injudicious  
planning led to loss  
of Rs 8.93 lakh**

**3.2.18** Rewari Lift Irrigation Water Services Division, Jhajjar was entrusted with the construction of Muzaffra Sub-minor RD 0 to 24,065 under RIDF-IV. Advance payment of Rs 1.17 crore for land acquisition was deposited with the LAO during December 2001-February 2002. Initially, L-Section with discharge at head was approved for 8.80 cusecs upto RD 24,065. This was revised to 3.30 cusecs by curtailing length upto RD 5,200 in September 2002 on the ground that area after RD 5,200 would be irrigated by constructing water courses by the farmers on the bed of the causeway of the abandoned Sahibi Creak of Railway. The LAO refunded balance of Rs 99 lakh in May 2003.

Thus, improper planning at the initial stage resulted in blocking of funds for 14 to 16 months and the Department had to bear interest of Rs 8.93 lakh on borrowed funds. Had the planning been done after proper survey and feasibility study at initial stage, the loss of interest could have been avoided.

**Programme management**

**Irrigation infrastructure and utilisation thereof**

***Targets and achievements for creation of additional irrigation potential***

**3.2.19** The objective of the Irrigation Department was to manage water resources of the State and to provide maximum water for irrigation to the farmers. Against the Cultivable Command Area (CCA) of 38.21 lakh hectares under 15 Water Services Circles in the State, the actual coverage under irrigation remained between 20.54 lakh and 21.35 lakh hectares during 2001-05.

The targets and achievements of additional irrigation potential under various schemes during 2001-05 as intimated by the Department were as mentioned below:

Sr. No.	Name of project	Additional irrigation potential (In Hectares)		Shortfall	Percentage of shortfall
		Targets	Achievement		
1.	Water Resources Consolidation Project	13,720	4,450	9,270	68
2.	Jawahar Lal Nehru Canal Project	2,007	24	1,983	99
3.	Gurgaon Canal Project	2,000	Nil	2,000	100
4.	Balance work of WRCP (AIBP)	13,378	12,135	1,243	9
5.	Loharu Canal Project	2,003	65	1,938	97
6.	Improvement/reconstruction of old existing channels/drains and new channels/drains under NABARD loan scheme	38,796	34,068	4,728	12
<b>Total</b>		<b>71,904</b>	<b>50,742</b>	<b>21,162</b>	<b>29</b>

It was noticed that though the stalemate over the share of Ravi-Beas with the State of Punjab had not yet been resolved, the Department was setting the

targets for creation of infrastructure for irrigation potential from year to year taking into account the water from this source also. To that extent, the targets were not strictly realistic.

***Non or negligible functional schemes due to non-availability of water***

**Thirty nine irrigation channels remained non or negligible functional due to non-availability of water**

**3.2.20** In seven divisions, 39 Irrigation Channels were completed under NABARD schemes by incurring an expenditure of Rs 21.30 crore between 1997 and 2003 for providing Irrigation to 23,781 hectares (*Appendix XV*). Out of these channels, 23 were non-functional since completion and the remaining 16 provided irrigation facility to only 550 hectares during 2001-05, as against 11,328 hectares envisaged. SE, Loharu, Water Services Circle, Bhiwani stated (March 2005) in respect of two divisions that channels were non-functional due to non-availability of water and delay in availability of water through Satluj Yamuna Link Canal (SYL) for which the system was constructed. SE, Yamuna Water Services (YWS), Bhiwani stated (May 2005) in respect of three divisions that the schemes were framed as per designed discharge at the off take point of channels and by keeping in view the demand of the villagers, and less irrigation was due to short availability of water. Thus, the schemes were conceived in anticipation of availability of water through SYL.

The channels were thus executed without ensuring the availability of water and the expenditure incurred proved unfruitful and the intended benefits to water users could not be provided.



**Non-functional Saleempur Minor RD 4,500 (Sr. No. 4 of *Appendix XV*)**

### ***Non-utilisation of irrigation infrastructure***

**Infrastructure under 222 channels remained negligible/non-utilised**

**3.2.21** In 10 water services divisions, of JLN Project, Loharu Canal Project, Jui Canal Project, Siwani Canal Project and YWS Circle, Bhiwani the existing irrigation potential of 66,374 hectares through 117 channels (*Appendix XVI*) remained unutilised during 2001-05. As a result, the intended socio-economic benefits could not be provided to the farmers. Concerned EEs/SEs stated (April-June 2005) that infrastructure could not be utilised due to non-availability of water. This indicated that the channels were constructed without taking into consideration the actual availability of water.

Similarly, in seven Water Services Divisions, 105 existing irrigation channels (*Appendix XVII*), for providing irrigation to 1,82,483 hectares, functioned at very low capacity during 2001-05 as only 6,402 hectares (4 *per cent*) were covered under irrigation during this period. Thus, channels were constructed without considering the actual availability of water and intended benefits could not be provided in 1,76,081 hectares of CCA.



**Gothera Minor RD 18,830 (Sr. No. 35 of *Appendix XVII*) with negligible water**

### ***Creation of irrigation potential in excess of availability of water***

**Irrigation potential created far in excess of availability of water**

**3.2.22** Under Loharu Lift Irrigation Project, against the CCA of 1,30,412 hectares, irrigation potential of 1,24,669 was created upto March 2005 by constructing one Canal, 15 Distributaries, 57 Minors and 24 Sub-Minors. However, 342 cusecs of water per day was available for irrigation for 16 days in a cycle of 32 days on average basis during 2001-05. With this, 13,470 hectares of Cultivable Command Area was irrigated during both the crops. Even if, water from Ravi-Beas is received, the maximum water available with the project would be 1,379 cusecs and with this a maximum of 54,313 hectares could be irrigated. Thus, the Department had created 70,356 hectares of excess irrigation potential (130 *per cent*) through construction of canals; distributaries; minors and sub-minors.

The SE stated (March 2005) that the irrigation potential was created for utilisation of the share of Ravi-Beas water. The reply shows that the

infrastructure had been created on the assumption of receipt of water from Ravi-Beas. Moreover, the potential created was even more than what could be achieved with Ravi-Beas share of water.

Similarly, under Rewari and Mohindergarh Canal Circles of JLN Project, against the CCA of 2,61,485 hectares, irrigation potential of 2,19,791 hectares had been created upto March 2005 by constructing five canals, 77 distributaries, 79 minors and 11 sub-minors. However, 537 cusecs water per day on an average was available for irrigation during the period 2001-05 with which 18,370 hectares of CCA was irrigated. After adding the proposed Ravi-Beas share, a total of 2,335 cusecs water would be available and the total area covered under irrigation would increase to 79,877 hectares. The Department had thus created irrigation potential of 1,39,914 hectares (175 per cent) in excess of the projected availability of water including water from Ravi-Beas share under these circles.

Thus, irrigation potential created had exceeded the actual as well as the projected availability of water under Ravi-Beas share.

### Execution of works

#### *Execution of works without technical sanctions*

**Works worth  
Rs 3.59 crore were  
executed without  
technical sanctions**

**3.2.23** The Public Works Department Code provides that no work should be commenced unless a properly detailed design and estimate is sanctioned and the competent authority issues orders for commencement of work.

In five<sup>9</sup> divisions, 65 works involving expenditure of Rs 3.59 crore were executed during 2001-05 without the approval of detailed estimates by the competent authority. The EE, Construction Division 17, Karnal attributed (June 2005) this to urgency of work at site. Technical sanctions had not been accorded by the competent authorities (August 2005).

### Warabandi not framed and Water Users' Associations not formed

**3.2.24** As per provisions of the Haryana Canal and Drainage Act, 1974, the maintenance and repair of Water Courses (WCs) is the responsibility of the farmers. Alternatively, the Act provides for the Department to operate and maintain the system and charge farmers to cover the cost for which Water Users' Associations are required to be formed. The Act also provides framing of warabandi<sup>10</sup> for equitable distribution of canal water by turn to users.

<sup>9</sup> Fatehabad Water Services Division, Fatehabad; Lift Water Services Mechanical Division, Bhiwani; Sonipat Water Services Division, Sonipat; Water Services Division, Dadupur; and construction Division No. 17, Karnal.

<sup>10</sup> Warabandi is a system of distribution of water among the farmers turn by turn from a water course so that benefits of irrigation can be provided to all the beneficiaries in that area.

In 6 Divisions, 2,161 Water Users' Associations were required to be formed on 154 channels for active participation of the farmers. Against this, 265 Water Users' Associations were formed during 2001-05. The Department was not maintaining the water courses. Since a large number of Water Users' Associations had not been formed, the water courses were also not being maintained by the users. The water courses constructed with Government funds thus were not being maintained. Consequently the purpose of equitable distribution of canal water could not get achieved due to lack of maintenance of distribution infrastructure. The EEs stated (April-June 2005) that the farmers were not interested in formation of Water Users' Associations. In eight divisions, warabandi was not framed on 108 Channels. Non-framing of warabandi added to Department's failure in ensuring equitable distribution of water among the beneficiaries. Six EEs intimated (March - May 2005) that since Chakbandi<sup>11</sup> was not done, hence warabandi could not be done.

### **Monitoring and evaluation**

**3.2.25** Irrigation Department was required to constitute beneficiary group committees for monitoring the completed NABARD projects to evaluate the level of benefits being delivered. But no such committees had been formed (August 2005) for this purpose.

NABARD in its monitoring study pointed out (February 2003) that the infrastructures created under the projects were not being utilised adequately. The Government issued (January 2004) instructions to investigate the execution of the schemes to determine as to why the benefits had not reached the desired level in respect of 34 schemes and fix responsibility for preparing and executing faulty schemes. It was noticed that responsibility had not been fixed even in a single case (August 2005).

As a result of lack of monitoring, Department had to bear losses as discussed in the forgoing paragraphs and also could not successfully provide the intended socio-economic benefits to the people of the State.

### **Conclusions**

**3.2.26** As discussed in the forgoing paragraphs, there were deficiencies in financial management, planning of schemes, creation and utilisation of infrastructure, execution of works, etc. In financial management, cases of avoidable payment of surcharge due to delay in making payment of energy charges, drawal of funds without immediate requirement, etc. were noticed.

Dropping of schemes due to improper planning, taking up of schemes without proper survey, implementation of schemes without ensuring availability of water, lack of planning at initial stages of the scheme, injudicious expenditure on installation of pump houses, non-starting of schemes due to slackness, etc.

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<sup>11</sup> Chakbandi is consolidation of a command area on a particular outlet.

are the indications of lack of planning. Non-function of irrigation schemes due to non-availability of water, creation of irrigation potential in excess of availability of water, etc. reflected inadequate management of creation and utilisation of infrastructure.

Works were executed without technical sanctions. Further, shunt capacitors to maintain prescribed power factor at pump houses were not installed and avoidable payment of energy charges for non-functional pump houses was also noticed.

The major area of concern, however, was that the Department was setting unrealistic targets based on incorrect assumptions of availability of water. As brought out previously, the creation of irrigation potential was far in excess of the projected availability of water as particularly indicated from two schemes namely 'Loharu Lift Irrigation Project' and 'JLN Project' where the Department had created excess irrigation potential of 70,356 hectares and 1,39,914 hectares respectively, far beyond the availability of water including projected availability from Ravi-Beas share.

### **Recommendations**

- 3.2.27** ➤ Public Works Department (Irrigation Branch) should ensure that schemes should strictly be formulated after ensuring availability of water at off take points of the channels so that infrastructure created is optimally utilized. Even the works which have been taken up in anticipation of receipt of water from Ravi-Beas share through SYL, a considered decision should be taken to go ahead with the works or otherwise, till the stalemate is resolved with the State of Punjab; and
- Government should evolve a proper system independent of the LOC for making timely payment of energy charges to avoid surcharge/penalty.
  - Provisions under LOC system should be followed strictly and money drawn only in case of need.

These points were referred to Government (August 2005), reply had not been received (December 2005).