

## **CHAPTER - 10**

### **WATER RESOURCES**

10.1 The State of Rajasthan is the largest state in the country covering an area of 3.42 lakhs Sq. Km. which is more than 10% of the total geographical area of the country. About 5% of the total population of the country resides in the state and it has more than 15.7 million ha of land suitable for agriculture. The State of Rajasthan is one of the driest states of the country and the total surface water resources in the state are only about 1.17% of the total surface water resources of the country.

10.2 The State is faced with peculiar topographical extremities - hostile desert, rough Aravali ranges, practically no Perennial River, tribal/backward population and recurring famine conditions due to scanty rainfall. The rivers of the state are rain fed and identified by 14 major basins divided into 59 sub-basins. The surface water resources in the state are mainly confined to south and south-eastern parts of the State. There is a large area in western part of the state which does not have any defined drainage basin. Thus the water resources in the state are not only scarce but have highly uneven distribution both in time and space. The State is overwhelmingly rural, with 76.61 % population living in the rural area.

10.3 The ground water also plays an important role especially in agriculture and drinking water supply. The situation of ground water exploitation is also not satisfactory as in areas where surface irrigation is provided there is a tendency of not using ground water for agriculture which creates problem of water table rise and even water logging. On the contrary, in large areas of the State, ground water is being over exploited and the water table is depleting at alarming rate in most of the area except in canal command area. There are 15 defined river basins in the State. The total available surface water in the State is 21.71 BCM. Only 52% of the surface water has been harnessed up to till.

10.4 This background leads to the formulation of the following water resources development and management objectives and priorities:

- Development of all utilisable water resources to the maximum possible extent, including surface water - local and imported - groundwater and waste water, for optimal economic development and social well-being.
- Assuring an integrated and multi-disciplinary approach to planning, evaluation, approval and implementation of irrigation and drainage projects, including river basin management, of surface and ground water.

- Optimisation of water resources exploitation and raising the level of reliability of supplies through conjunctive use of surface and ground water.
- Judicious and economically sound allocation of water resources to different sectors, with drinking water supply as a first priority.
- Optimum utilisation of water resources to maximise production in all user sectors.
- Providing flood protection and drainage facilities, as well as assuring minimal supplies during drought periods.
- Maintenance of water quality at acceptable standards and reduction of water resources' pollution by urban and industrial sewage.
- Ensuring proper functioning of existing structures, conveyance systems and other assets through adequate maintenance and operation.
- Minimising adverse impacts of water resources development on the natural environment and on population affected by project implementation works.
- Promoting beneficiaries' participation in all aspects of water planning and management, with particular emphasis on Water User Associations intended to manage and maintain irrigation systems, both physically and financially.
- Motivating and encouraging water conservation through appropriate and socially acceptable water rates, introduction of water-saving devices and practices in all sectors, and educational campaigns.
- Advancing the technological and scientific level of all the staff in the water sector through intensification of applied research, technology transfer, training and education.
- Ensuring well coordinated and efficient decision making, planning, design, execution and operation and maintenance activities among all GOR agencies.
- Facilitating private initiative in development, operation and management of water projects.
- Emphasis to be given for recharge of ground water aquifers to mitigate the crisis of drinking water supply and demand of drinking water supply and for industrial and other purposes.

10.5 The State Government has laid emphasis on harnessing of maximum water resources by investing funds during all Plan periods. Irrigation potential has been increased from 4.00 lakh hectares to the tune of 33.94 lakh hectares with the construction of 113 Major and

Medium and 3273 Minor Irrigation Works up to March, 2007. Three major projects namely Bisalpur, Mahi & Ratanpura Distributory, 2 medium Projects namely Sukali Selwara & Bandi sendara and 29 Minor Irrigation Schemes has been targetted to be completed during 2007-08. Work on 6 Major Irrigation Projects (RWSRP, Gang Canal Modernisation, Bisalpur, Mahi Bajaj Sagar, Narmada and Ratanpura distributory) 6 Medium Irrigation Projects ( Bandisendra, Sukli, Gardada, Takli, Piplad & Gagrin) and 56 Minor Irrigation Works are in progress.

### **Eleventh Plan and Annual Plan Outlays for Irrigation Projects**

10.6 An outlay of Rs. 5, 37,721.69 lacs has been kept for major, medium and minor irrigation projects (excluding IGNP & CAD) in the XI Five Year Plan 2007-12. An expenditure of Rs. 77,940.34 lacs is likely to be incurred in 2007-08 (excluding IGNP & CAD); an outlay of Rs. 77298.94 Lacs is proposed for various ongoing irrigation projects in Annual Plan 2008-09. Major Head wise outlays are summarized as below:

Table No. 10.1

(Rs. in lacs )

S. No.	Category of Projects	XI Plan Outlay	Anti. Exp. 2007-08.	Proposed Outlay 2008-09
1.	Multi Purpose - LOTC Works	130.11	42.56	22.03
2.	Major Projects	265200.12	35174.43	28074.80
3.	Medium Projects	84500.05	8022.78	11130.02
5.	Minor Irrigation Works	98585.13	17223.03	18010.05
6.	Water harvesting structure	27500.01	7163.00	6960.00
7.	Flood Control Works	1450.00	50.00	130.00
8.	Water Management Services	12665.22	979.54	1070.04
9.	Ratanpura Distributory	330.03	110.00	110.00
10.	Gang Canal (Modernisation)	8763.02	4125.00	8767.00
11.	Ghaggar Flood	2200.00	750.00	870.00
12.	Bisalpur (Irrigation)	4398.00	2300.00	455.00
13.	Isarda Drinking/Irrig.Proj.	19000.00	0.00	500.00
14.	Mahi	13000.00	2000.00	1200.00
	<b>Total</b>	<b>537721.69</b>	<b>77940.34</b>	<b>77298.94</b>

10.7 Project-wise details are as follows:

### **Multipurpose/Major Irrigation Projects**

#### **LOTC Works**

10.8 The works included in this head are left over technical committee. The LOTC works are shareable between M.P and Rajasthan on matching basis. A provision of Rs.45.00 lakh has been kept in 2007-08. A provision of Rs. 22.00 lacs is proposed for these works in 2008-09 and a token

provision of Rs. 0.01 lac is proposed in 2008-09 for adjustment of share of the state in Bhakra Beas Management Board.

### **Mahi Project**

10.9 Mahi Bajaj Sagar multipurpose project is an interstate project between the States of Gujarat & Rajasthan for the development of irrigation & power generation. This project would provide irrigation in 80 thousand hectare land. The work on main components of the project was started in the year 1972-73. The latest estimated cost of this project is Rs. 834.88 crores. Out of which an expenditure of Rs. 873.91 crores had been incurred up to March 31, 2007 on this project. In the year 2007-08, an expenditure of Rs.20.00 crores is expected to be spent. As such Rs. 893.91 crores is anticipated to be spent on the project up to March 31, 2008. The project will be completed in the year 2007-08. A Provision of Rs.12.00 crores is proposed to complete remaining works of the project in 2008-09.

10.10 The ultimate CCA of the project is 0.80 lac hect and CCA created up to March 31, 2007 is 0.84 lac hect. 0.02 lac hectares is likely to be created in the year 2007-08 by extending some distributaries.

### **Narmada Project**

10.11 Narmada Canal Project was taken up to utilize 0.5 MAF of Narmada water allocated to Rajasthan. This water will be available to Rajasthan from Sardar Sarovar Project, under construction in Gujarat. The share of water will be delivered at Rajasthan-Gujarat boarder through 458 Km long Narmada Main canal (NMC). 358 Km of this canal is complete in all respect and the work in last stretch of 100 Km is in progress. The canal system in Rajasthan would provide irrigation in 2.46 lac hectare by adopting improved method of irrigation i.e. sprinklers irrigation system which is mandatory in this project.

10.12 This project would provide drinking water facility to 1107 villages & 2 towns. The project was cleared by Planning Commission in the year 1992 with the condition that the environment impact assessment (EIA) would be done. The EIA of this project was done by WAPCOS and it was found that it is likely that some of the area may be water logged. Therefore the concept of the project was rethought & the project was formulated by TAHAL Consulting Engineers, Israel.

10.13 The Revised cost of the project has been approved by Planning Commission for Rs. 1541.36 Crores. This cost includes Rs. 222.57 Crores as share of PHED for providing the drinking water to the command area and outside the command area. The latest estimated cost of the project is Rs. 1975.29 crore out of which an expenditure of Rs. 1080.52 crore had been incurred up to March 31, 2007. In the year 2007-08, an expenditure of Rs.140.00 crores is likely to be incurred. Thus, the total expenditure on the project up to March 31, 2008 Rs. is expected to be Rs.

1120 crores. A provision of Rs. 15,000.00 lacs is proposed in Annual Plan 2008-09. The project is likely to be completed by March 2010.

10.14 The canal system would provide irrigation in 2.46 lac hectare on completion. Out of which CCA in 0.33 lac hect has been created up to March 31, 2007. The target for creation of CCA for the year 2007-08 is 0.55 lac hect. Thus, up to March 31, 2008. likely CCA to be opened by this project is 0.88 lac hect.

### **Bisalpur Project**

10.15 Bisalpur major project is an irrigation cum drinking water supply project. The dam has already been constructed across river Banas near village Bisalpur in district Tonk to provide irrigation facility in an area of 81.8 thousand hectare and to provide drinking water to Jaipur, Ajmer, Beawar, Kishangarh, Nasirabad & other enroute villages. The revised estimated cost of the project (at March 2000 prices) is Rs. 657.91 crores, against which an expenditure of Rs. 662.69 crores had already been incurred up to March 31, 2007. In the year 2007-08, an amount of Rs. 23.00 crores is expected to be spent on the project. Including this, Rs. 685.69 crores are expected to be spent on the project up to March 31, 2008. A provision of Rs. 455.00 lacs is proposed for the project in the year 2008-09.

10.16 The ultimate CCA of the project is 0.82 lac hectare, out of which 0.81 Lac hectare has already been created up to March 31, 2007. In the year 2007-08, 0.01 lac hectares CCA is likely to be opened; total CCA creation up to March 31, 2008 is expected to be 0.82 lac hectares.

### **Israda Drinking cum Irrigation Project**

10.17 Isarda Dam is proposed to be constructed across the river Banas near village Isarda. This project has been proposed for Rs. 360 crore and submitted for approval. A coffer dam is being constructed in upstream portion of Israda Dam for supplying drinking water to Tonk District at a very nominal cost of Rs. 16.50 crore. This coffer dam will also be useful during the construction of Isarda Dam. The work of coffer dam is almost completed. A provision of Rs. 5.00 crore is proposed for construction of Isarda Main Dam in 2008-09.

### **Ratanpura Distributary**

10.18 Ratanpura distributary work was started in the year 2000-01 to provide irrigation facilities to cultivators of left over area of Sidhmukh & Nohar Irrigation project. The estimated cost of the project is Rs. 27.53 crores and ultimate potential is 18 thousand hectares. The lining in 64 Km has been completed and the balance works of distributaries are in progress.

10.19 An expenditure of Rs. 22.03 crores had been incurred up to March 31, 2007. In the year 2007-08, Rs.1.10 crores is expected to be spent.

Thus, Rs. 23.13 crores is expected to be spent on the project up to March 31, 2008; Rs. 1.10 crores is proposed for the year 2008-09.

10.20 The ultimate targeted CCA of the project is 0.18 lac hectares, out of which 0.16 lac hectares has already been created up to March 31, 2007 and 0.02 lac hectares is likely to be created during the year 2007-08; 0.18 lac hectares CCA will be opened up to March 31, 2008.

### **Rajasthan Water Sector Restructuring Project**

10.21 This major project was conceived for the improvement of selected surface irrigation system to improve performance efficiency. The project envisages strengthening of the existing irrigation projects up to designed standards. The Water User's Association (WUA) will do the management of the project, after completion of all rehabilitation works. The total cost of this project is Rs. 733.6 crores of which World Bank assistance would be to the tune of Rs. 590 crores. It is proposed to rehabilitate 91 projects covering an area of 619.95 thousand Hectare. This project also envisages taking up remedial works of 16 identified large dams, which are in distress. The work on this project was started in the year 2002-03. An expenditure of Rs. 207.00 crores is likely to be incurred in 2007-08. The total expenditure on the project up to March 31, 2008 is expected to be Rs.640.47 crores. A provision of Rs.100 .00 crores is Proposed for this project in the Annual Plan 2008-09.

10.22 Since it is a rehabilitation project only, therefore no target was set up for additional irrigation potential by this project.

### **Indira Gandhi Nahar Project**

10.23 The Indira Gandhi Nahar Project is a very typical and one of the most gigantic projects in the world aiming to de-desertify and transform desert waste land into agriculturally productive area. For the convenience of the administrative control & construction, the project has been divided in two stages. The 204 KM. long feeder and main canal up to 189 KM. along with its distribution system (except Sahwa Lift system) falls under Stage-I

10.24 It is proposed to complete the Indira Gandhi Nahar Project stage I & II during the Eleventh Five Year Plan by lining of 1330 km and opening of 353 thousand hectares of CCA for irrigation.

10.25 The main priority is to provide drinking water in the command area as well as the adjoining & enroute villages & towns of western Rajasthan besides irrigation. The level of water for drinking, industrial, military and energy purposes is likely to increase to 1.35 MAF instead of 0.87 MAF at present. The following changes are proposed to improve the overall irrigation efficiency of IGNP:

- Use of Sprinkler Irrigation for reduction in water losses.

- Introduction of Participatory Management through formation of Water User Associations.
- Encouraging adopting crops requiring less water.
- Provision for upgradation & renovation of main canal & distribution system.
- Enhancing water tariff for irrigation, drinking & industrial use so that O&M cost is recovered.

10.26 During the year 2007-08, an expenditure of Rs. 159.32 crores is likely to be incurred on IGNP. It will provide irrigation facilities in 19.63 lac hectares of which 16.10 lac hectares cultivable command area had already been opened for irrigation up to March 31, 2007; and 0.37 lac hectares area is likely to be opened in 2007-08. Apart from this works for improving efficiency of the system) has also been taken in hand under Twelfth Finance Commission grants. This includes pilot project from sprinkler irrigation, computerization of control structures of project for head to tail, improving communication facilities, construction of ditch channels, automisation of gates of control structures, construction of balancing reservoir etc. On completion, these will result in saving of water and better water distribution management. These works are likely to be completed in 2009-10.

10.27 It is proposed to open 20 thousand hectares CCA in the year 2008-09, and continue the works for improvement of efficiency of system as above, with the expenditure of Rs. 212 crores, of which Rs.119.20 crores is proposed to be received from Twelfth Finance Commission grants. Therefore, an outlay of Rs. 212 crores is proposed for this project in the Annual Plan, 2008-09. Achievements and Targets are as follows:-

Table No. 10.2

(CCA in 000 Hectare/Lining in km.)

Stage	Achievement upto March,07		Likely Achievement 2007-08		Target 2008-09	
	CCA	Lining	CCA	Lining	CCA	Lining
Stage I	546	3270	-	-	-	-
Stage II	1064	4803	37	49	20	60
Total	1610	8073	37	49	20	60

### **Modernization of Gang Canal**

10.28 The Modernization of Gang Canal project is under operation since 1927 to provide irrigation in Ganganagar district. The canal system had deteriorated over the years. The project was prepared for the lining of Bikaner canal in the Punjab and canal system in Rajasthan portion. The project was started in 2000-01. The estimated cost of the project is Rs. 445.79 crore. The cost of this project has been revised to Rs. 551.19

crores, out of which an expenditure of Rs. 340.58 crores had been incurred up to March 31, 2007. An expenditure of Rs. 41.25 crores is likely to be incurred in the year 2007-08. Total expenditure on the project up to March, 2008 is expected to be Rs 381.83 crores. A Provision of Rs. 87.67 crores is proposed for the year 2008-09 for construction work of the remaining part of Gang Canal Feeder RD 31 to 205 and balance distributaries works. The project is likely to be completed by 2008-09.

10.29 An additional irrigation potential will be created in 96.51 thousand hectares, out of which 55.61 thousand hectares has been created up to March 31, 2007. In the year 2007-08, additional irrigation potential of 20.15 thousand hectares is expected to be created. Including this, total 75.76 thousand hectares potential will be expected to be created up to March, 2008.

### **Yamuna Water Project**

10.30 Two separate major projects have been prepared for utilization of 3198 cusec Yamuna water allocated in the 22nd meeting of Upper Yamuna River Board namely (i) Yamuna Water project for Bharatpur district and (ii) Yamuna Water Project for Jhunjhunu and Churu districts.

10.31 The payment of Rs. 30.00 lac towards the share of the State to upper Yamuna River Board is to be made, therefore, a provision of Rs. 34.39 lac has been kept for the project in 2007-08; Rs. 35.00 lac is proposed in the year 2008-09

### **Parwan Project**

10.32 Parwan major irrigation cum drinking water project is proposed to be constructed in Jhalawar District on Parwan River near village Akawad for providing irrigation to 138239 hactare land of Kota, Baran, Jhalawar districts. The total cost of this project is Rs. 1114.00 crores. A provision of Rs. 4.00 crores has been kept to start the project in 2007-08; Rs. 1000.00 lacs is proposed in 2008-09 for forest land compensation, geological investigations, model studies of Parwan dam, compensation of borrow area construction of head works and construction of office and residential quarters for staff.

### **Kalisindh Irrigation Project**

10.33 Kalisindh Major Irrigation project is proposed to be constructed in Jhalawar District of Kalisindh River near Bhanwarasa. The hydrology of the project has been cleared by CWC New Delhi. The work on project will be started in the year 2008-09. A token provision of Rs. 0.01 lacs has been kept for the project in the year 2007-08; a token provision of Rs. 0.01 lacs is proposed for the year 2008-09.



### **Dholpur Lift Irrigation Project**

10.34 Dholpur Lift Major Irrigation project is proposed to be constructed in Dholpur district to irrigate 34,665 hectare land. The hydrology of the project has been cleared by CWC New Delhi. The work on project will be started in the year 2008-09, therefore a token provision of Rs 0.01 lacs is proposed for the project in year 2008-09.

### **Medium Irrigation Projects**

#### **Sukli Selwara Medium Irrigation Project**

10.35 Sukli Selwara Medium Irrigation Project is under construction on river Sukali, which is a tributary of river West Banas. The dam site is located near village Selwara in district Sirohi. The work on the project was started in 2003.

10.36 The estimated cost of the project is Rs. 42.90 crores, out of which an expenditure of Rs. 32.08 had already been incurred up to March 31, 2007. The project is scheduled to be completed by 2007-08. In the year 2007-08, Rs. 5.00 crore is expected to be spent on the project. Thus, total expenditure on the project up to March, 2008 is expected to be Rs. 37.08 crore; Rs. 0.80 crore is proposed in the Annual Plan 2008-09.

10.37 This project would provide irrigation in an area of 5.6 thousand hectares, of which 0.50 thousand hectares has already been created up to March 31, 2007. In the year 2007-08, irrigation potential in 4.50 thousand hectares is targeted. The total additional irrigation potential up to the March 31, 2008 is expected to be created in 5.00 thousand hectares.

#### **Gardada Medium Irrigation Project**

10.38 Gardada medium irrigation project is under construction on river Mangli Dungari & Ganesh Nallah, which is a tributary of river Chambal. The dam site is located near village Polaspura in district Bundi. The project would provide irrigation in an area of 9 thousand hectare. The work on this project was started in 2003.

10.39 The estimated cost of the project is Rs. 83.41 crores, out of which an expenditure of Rs. 47.69 crores had already been incurred up to March 31, 2007. An expenditure of Rs. 27.00 crores is likely to be incurred in 2007-08. It is proposed to complete about 80% work on main dam and about 40% work on main canal and distributaries system during the current financial year 2007-08. A sum of Rs. 74.69 crore is expected to be spent on the project up to March, 2008. A provision of Rs. 27.00 crores is proposed for the project in the year 2008-09. The project is likely to be completed by the end of 2008-09.

10.40 This project would provide irrigation in an area of 9 thousand hectares. Additional irrigation potential of 0.95 thousand hectares is

targeted in the year 2007-08 and remaining 8.05 thousand hectares will be created in the year 2008-09.

#### **Bandi Sendra Medium Irrigation Project**

10.41 Bandi Sendra Irrigation Project is under construction on river Bandi, which is a tributary of river Luni. The dam site is located near village Sendra in Tehsil Bhinmal district Jalore. The project was started in 2003.

10.42 The estimated cost of the project is Rs. 37.03 crores, out of which an expenditure of Rs. 26.50 crores had already been incurred up to March 31, 2007. An expenditure of Rs. 2.00 crores is likely to be incurred in the year 2007-08. The project is likely to be completed up to March 2008. A sum of Rs. 28.50 crores is expected to be spent on the project up to March, 2008; Rs. 0.50 crores is proposed for the year 2008-09.

10.43 The project would provide irrigation in an area of 4.6 thousand hectares. An additional irrigation potential of 0.45 thousand hectares has already been created up to the year 2006-07. In the year 2007-08, irrigation potential of 3.75 thousand hectares is targeted. Including this, the total irrigation potential in 4.20 thousand hectare is expected to be created up to March, 2008.

#### **Takli Medium Irrigation Project**

10.44 Takli medium irrigation cum drinking water supply project is under construction on river Takli, which is a tributary of Amjar River as well as Kalisindh River. The dam site is located near village Dhankya in Kota district.

10.45 The project would provide irrigation facility in an area of 7,386 hectares and drinking water facility to 4 villages and 2 town of Ramganjmandi Tehsil, Kota district. The estimated cost of the project is Rs. 51.81 crores, out of which an expenditure of Rs. 2.00 crores had already been incurred up to March 31, 2007. An expenditure of Rs. 3.00 crores is likely to be incurred in the year 2007-08. The project is likely to be completed up to March 2012. A provision of Rs. 15.00 crores is proposed for the project in Annual Plan 2008-09.

#### **Piplad Medium Irrigation Project**

10.46 Piplad medium irrigation project is under construction on river Piplad which is a Tributary of Ahu River. The dam site is located near village Sulia Chowki in tehsil Bhawanimandi in Jhalawar Distt.

10.47 The project would provide in irrigation in an area of 4,688 hectares in 19 villages of Pachpahar Tehsil. The estimated cost of the project is Rs. 33.64 crores, out of which an expenditure of Rs. 2.00 crores had already been incurred up to March 31, 2007. An expenditure of Rs. 6.50 crores is likely to be incurred in the year 2007-08. A provision of Rs. 14.10 crores is proposed for the project in the Annual Plan 2008-09. During the year

2008-09 it is proposed to complete over 60% of dam work, 75% of rehabilitation & compensation of land coming under submergence, 10% canal works. The project is likely to be completed up to March 2012.

#### **Gagrin Medium Irrigation Project**

10.48 Gagrin medium irrigation project is under construction on river Ahu, which is a Tributary of Kalisindh river. The dam site is located near village Kalapipal of tehsil Pachpahar of Jhalawar district.

10.49 The project would provide irrigation in an area of 7943 hectare. The estimate cost of the project is Rs. 80.12 crores, out of which an expenditure of Rs. 1.96 crores has been incurred upto 3/2007. An expenditure of Rs. 10.00 crores is likely to be incurred in the year 2007-08. A provision of Rs. 20.00 crores is proposed for the year 2008-09. Out of which Rs. 10.00 crores are to be incurred on construction of Dam which is 30% of Dam work and a sum of Rs. 10.00 crores have been proposed to pay the compensation of land under submergence & rehabilitation work. The project is likely to be completed upto March 2012.

#### **Lhasi Medium Irrigation Project**

10.50 Lhasi medium Irrigation Project envisages construction of earthen dam on river Lhasi near village Khajuria Tehsil Chhipabarod district Baran.

10.51 The project would provide irrigation in an area of 5,755 hectare. The estimated cost of the project is Rs. 44.73 crores. An expenditure of Rs. 1.20 crores is likely to be incurred in year 2007-08, and a provision of Rs. 10.00 crores is proposed for the project in the year 2008-09 for construction of Earthen dam and spillway. The project is likely to be completed upto March 2012.

#### **Manoharthan Medium Irrigation Project**

10.52 Manoharthana medium irrigation cum drinking water project is proposed to be constructed in Jhalawar district on Parwan river near village Manoharthana for providing irrigation to 9,800 hectares land of Jhalawar District.

10.53 The estimated cost of the project is Rs. 93.10 crores. An expenditure of Rs. 2.00 crores is likely to be incurred in the year 2007-08. A provision of Rs. 4.00 crores is proposed in the year 2008-09. This will include forest loan compensation, Geological investigations, C-Work, office and residential building of Manoharthana dam. The project is likely to be completed up to March 2012.

#### **Hatiyadeh Medium Irrigation Project**

10.54 Hatiyadeh medium irrigation project envisages construction of earthen dam on Hatiyadeh Nalla near village Karwari Khurd, Tehsil

Kishanganj district Baran. It will provide irrigation in 6,885 hectares of land in Baran district.

10.55 The estimated cost of the project is Rs. 70.66 crores. An expenditure of Rs. 2.00 crores is likely to be incurred in the year 2007-08; Rs. 5.50 crores is proposed in Annual Plan 2008-09. This will include construction of Earthen Dam, Spillway. The project is likely to be completed up to March 2012.

#### **Rajgarh Medium Irrigation Project**

10.56 Rajgarh Medium Irrigation cum drinking water project is proposed to be constructed in Jhalawar district on the confluence poring of Ahu and Kanthari rivers near village Rajgarh for providing irrigation to 8,541 hectares land of Jhalawar district.

10.57 The estimated cost of the project is Rs. 98.40 crores. An expenditure of Rs. 2.00 crores is likely to be incurred in the year 2007-08. A provision of Rs. 4.00 crores is proposed for the year 2008-09. This will include forest land compensation, Geological investigations, C-Work, and office and residential building of Rajgarh Dam. The project is likely to be completed up to March 2012.

#### **Andheri Medium Irrigation Project**

10.58 Andhari Medium Irrigation Project envisages construction of earthen dam on river Andhari near village Mundkiya Tehsil Chhipaboard district Baran, for providing irrigation to 7,700 hectares land of Baran District.

10.59 The estimated cost of the project is Rs. 87.53 crores. An expenditure of Rs. 1.50 crores is likely to be incurred in the year 2007-08. A provision of Rs. 4.00 crores is proposed for the year 2008-09. This will include construction of Earthen Dam, Spillway. The project is likely to be completed up to March 2012.

10.60 The following medium irrigation projects are being funded by NABARD under RIDF. The progress of these projects is as under:-

Table No. 10.3

(Rs. in Crores)

S. no.	Name of the Project	Total Sanctioned Cost	Exp. up to March 2007	Likely exp. up to March, 08	Proposed Outlay 2008-09
1	Bandi Sendra	37.03	26.50	28.50	0.50
2	Sukali	42.90	32.08	37.08	0.80
3	Gardada	83.41	47.69	74.69	27.00
4	Takli	51.81	2.00	5.00	15.00
5	Piplad	33.64	2.00	8.50	14.10
6	Gagrin	80.12	1.96	11.96	10.00
7	Lhasi	44.73	0.00	1.20	10.00

### **Minor Irrigation Projects**

10.61 The minor irrigation projects have low cost and are completed in short gestation period. Such works create potential in arid and semi-arid region of the State, where scope of surface water is limited and the scope of exploitation of groundwater is very limited. An expenditure of Rs. 172.23 crores is likely to be incurred on minor irrigation projects in the year 2007-08; Rs. 181.10 crores is proposed in the Annual Plan 2008-09.

### **Water Harvesting Structures**

10.62 For conservation of the scarce rainy water and augmentation of traditional resources of water in the State about 48,000 structures had been identified in the year 2006-07. Out of which, 3,298 water harvesting structures works costing to Rs. 317.42 crore has been sanctioned till now; 1892 works has been completed up to Oct. 2007. An expenditure of Rs. 71.63 crores is likely to be incurred on Water Harvesting Structures. A provision of Rs. 69.90 crores is proposed for these works in the Annual Plan 2008-09. The project has been sanctioned by NABARD under RIDF.

### **GROUND WATER DEPARTMENT**

10.63 The scarce ground water resources in the State are depleting at an alarming rate. Out of 237 blocks, 140 blocks have been come under "over-exploited" category and 50 blocks under "critical" category. This scenario envisages an urgent need to replenish the ground water resources. As such, it is proposed to take up artificial ground water recharge activities on a mass scale for sustainable management of ground water resources in the State.

10.64 A provision of Rs. 585.00 lakhs has been proposed for the 11<sup>th</sup> Five Year Plan of which Rs. 91 lakhs is kept in the Annual Plan 2007-08; Rs. 100 lakhs is proposed in the Annual Plan 2008-09. Scheme-wise allocations are as follows:

Table No. 10.4

(Rs in lakhs)

S. No	Scheme	11 <sup>th</sup> Plan Outlay	Anti. Exp. 2007-08	Proposed outlay 2008-09
1.	Survey & Research	108.00	0.00	0.00
2.	Civil Works	323.00	65.20	63.42
3.	Purchase of Machinery & Equipments	154.00	25.80	0.00
	Total	585.00	91.00	63.42

### **COMMAND AREA DEVELOPMENT**

#### **Command Area Development & Water Utilisation Department**

10.65 The Command Area Development Programmes aims to bridge the gap between irrigation potential created and its early utilisation. This is

achieved through the efficient soil, agriculture and water management. Two Command Area Development Authorities of Chambal & IGNP were set up in 1974. The main objectives of CAD Programmes are as follows

- Efficient utilisation of water minimizing of water losses through lining of canals, increasing canal capacity, installation of control structures, dissemination of improvement techniques.
- Minimizing gains from water use through on Farm Development Works, constructing improved and wider road network, improved agriculture techniques brought about by adaptive research and its dissemination through agriculture extension.
- Equitable distribution of water through warabandi and greater control over canal system as a whole.
- Involvement of farmers in management of irrigation system through Participatory Irrigation Management by their active involvement.

10.66 The major thrust during the Eleventh Plan period will be on the following activities

- Completion of all on-going OFD works in IGNP.
- OFD works in lift schemes of IGNP, Bisalpur Project, Narmada Project.
- Irrigation & Drainage Works.
- Agriculture Extension & adaptive trials.
- Anti water logging Programme.
- Participatory Irrigation Management.
- To undertake new/existing irrigation projects under CADA.

10.67 Scheme/project-wise details of the outlays kept in the Eleventh Five Year Plan, likely expenditure to be incurred in the Annual Plan 2007-08 and outlay proposed in Annual Plan 2008-09 are as follows:-

Table No. 10.5

(Rs. in lakhs)

S. No.	Scheme	Eleventh Plan outlay	Anti. Exp. 2007-08	Proposed Outlay 2008-09
1	CAD & WU Deptt.	194.00	30.76	36.91
2.	IGNP, Bikaner	25619.80	2650.00	3903.96
3.	Chambal, Kota	10000.00	849.31	2519.13
4.	CAD, Bisalpur	4685.00	800.00	800.00
5.	Mandi Committee, Bikaner	500.00	75.00	75.00
6.	Mandi-Committee, Jaisalmer	525.00	0.03	10.00
7.	CAD - Sidhmukh Nohar	3789.63	1550.00	1550.00
8.	CAD - Amarsingh Jassana	3490.60	800.00	800.00
	Total	48804.03	6755.10	9695.00

## **IGNP, BIKANER**

10.68 Construction of lined water courses, agriculture extension adaptive research, soil survey, anti water logging and land reclamation works are taken under On Farm Development Works. OFD works are funded under CSS on the matching basis. Construction of lined water courses is likely to be in 1,68,289 hectare against the target of 1,28,000 hectare.

10.69 An outlay of Rs. 256.20 crores has been proposed for the Eleventh Five Year Plan. An expenditure of Rs. 2,650.00 lakhs is likely to be incurred on the project in year 2007-08 and Rs. 3,903.96 lakhs is proposed for the annual plan 2008-09. For OFD works Rs. 3212.67 lacs under State Plan is proposed including Rs.1200.00 lacs for budget announcement 2007-08 for lining in last murabba.

10.70 A target of construction of lined water courses in 20000 hectare area @ Rs. 15000/- per hectare is proposed in the command areas of Sidhmukh Nohar and Amarsingh Jassana of Bhakra system. The farmers are also being benefited through Agriculture Extension, Adaptive Trials & Soil Survey, Water Logging & Land Reclamation, Abadi Planning, Subsidy on Diggi & Sprinkler etc.

## **CAD CHAMBAL, KOTA**

10.71 The Chambal Valley Development Scheme is a joint venture of MP & Rajasthan states. Water of the Chambal River has been harnessed for the scheme in three phase's i.e:

- Construction of Gandhi Sagar Dam, Kota Barrage, Chambal Right Main Canal and Chambal Main left Canal.
- Construction of Rana Pratap Sagar Dam between Gandhi Sagar & Kota Barrage.
- Construction of Jawahar Sagar Dam.

10.72 Chambal Right Main Canal off-takes from right side of the Kota barrage and run 124 kms in Rajasthan and 24 kms in MP. It has 7 branches, 27 distributaries and irrigates 1.27 lakh hectare lands in Rajasthan. Total length of the system is 1368.33 kms. Chambal LMC off take from the left side of the Kota barrage and its length is 2.59 km. Three branches, 27 distributaries and 180 minors of the CLMC irrigate 1.02 lakh ha land in Kota and Bundi district.

10.73 A provision of Rs. 100.00 crores has been kept for the project in the Eleventh Five Year Plan 2007-12. An expenditure of Rs. 849.31 lakhs is likely to be incurred on the project in year 2007-08 and Rs. 2519.13 lakhs is proposed for this project in the Annual Plan 2008-09. PMIP (Water User Associations) and OFD works are funded under CSS on the matching basis.

10.74 It is proposed to complete OFD works in 4000 hectare area in the Annual Plan 2008-09. The proposed amount will be utilized for irrigation and drainage works, physical works like Canal Lining, Canal Structures, Earthwork, Outlet rectification, De-silting of Drains etc, Participatory Irrigation Management Programme (WUAs), the correction of system deficiencies, up to 150 cusecs discharge.

#### **OFD works in Bisalpur Project**

10.75 Bisalpur drinking water cum irrigation project has been included under the Centrally Sponsored Schemes in 2006. It is proposed to complete OFD works in 81,800 hectare area during the Eleventh Five Year Plan for which an amount of Rs. 46.85 crores has been proposed for the Eleventh Five Year Plan. An expenditure of Rs. 8.00 crores is likely to be incurred on OFD works in year 2007-08 and Rs. 8.00 crores is proposed for this project in the Annual Plan 2008-09.

#### **Sidhmukh Nohar Irrigation Project**

10.76 Sidhmukh Nohar Irrigation Project (SNIP) is included under CSS by Central Government. The total area of this project is 114379 ha. 99 villages of Hanumangarh and 14 villages of Churu District will be benefited by this project.

10.77 Condition of 10% contribution of total construction of lined water courses to be collected from benefited cultivators is kept by Central Government. CADA started the construction of lined water courses in this project area in the year 2004-05 and upto March 2006, work were completed in 30551 ha.

10.78 For construction of lined water courses in Sidhmukh Nohar Irrigation CAD Project an anticipated expenditure of Rs. 1550.00 lakhs has been incurred during the year 2007-08 and a provision of Rs. 1550.00 lakhs has been proposed for the year 2008-09.

#### **Amar Singh Sub Branch Project**

10.79 Amar Singh Sub Branch Project (ASSB) is included under CSS by Central Government. The total area of this project 50702 ha. Condition of 10% contribution of total cost of construction of lined water courses to be collected from benefited cultivators is kept by Central Government. CADA started the construction of lined water courses in this project area in the year 2005-06 and upto March 2006, work were completed in 2011 ha.

10.80 For construction of lined water courses in Amar Singh Sub Branch Irrigation CAD project an anticipated expenditure of Rs. 800.00 lakhs has been incurred during the year 2007-08 and a provision of Rs. 800.00 lakhs has been proposed for the year 2008-09.

#### **Development of Mandies**

10.81 Additional facilities of roads, drinking water and electrification are being provided in the Bikaner and Jaisalmer Mandies located in the



Indira Gandhi Nahar Project area. An amount of Rs. 5.00 crores for the Bikaner Mandi and Rs. 5.25 crores for the Jaisalmer Mandi are proposed for the Eleventh Five Year Plan 2007-12. An expenditure of Rs. 75.00 lakhs and 0.03 lakhs respectively are likely to be incurred in year 2007-08 and Rs. 75.00 lakhs and Rs.10.00 lacks respectively are proposed for the Annual Plan 2008-09 on Bikaner and Jaisalmer Mandi respectively.

### **COLONIZATION**

10.82 The Colonization department is entrusted with the task of land allotment in Indira Gandhi Nahar Project area. The work of land allotment depends upon the receipt of chak plans, completion of network, record writing and irrigation programme.

10.83 A provision of Rs. 95.00 lakhs has been kept for the Eleventh Five Year Plan. Out of the provision proposed for the Eleventh Five Year Plan, Rs. 80.00 lakhs would be used on capital works and Rs. 15.00 lakhs on payment to labourers. An expenditure of Rs. 7.50 lakhs is likely to be incurred in year 2007-08 and Rs. 7.00 lakhs is proposed for the Annual Plan 2008-09 for the ongoing activities of the department.