

CHAPTER - 7

WATER RESOURCES

7.1 Water scarcity has become acute due to over exploitation of ground surface water and erratic & untimely rainfall. State has 1.16 per cent of India's water resources in the form of annual rainfall. The surface water resources get exhaust before the commencement of next rainy season. The severity of water can be best realized from the following table:

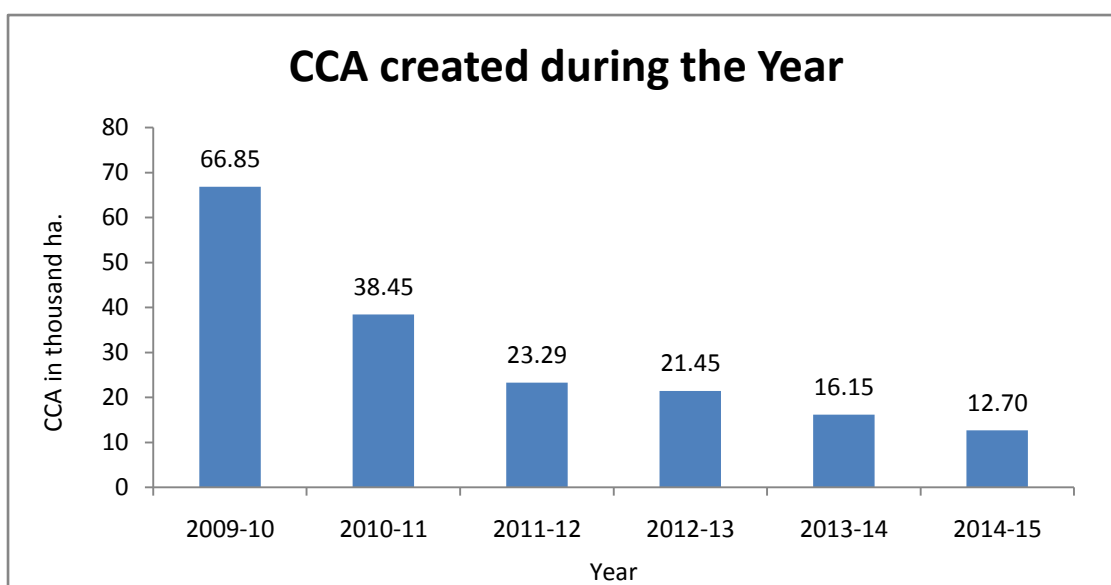
Table No. 7.1
Contribution of Rajasthan

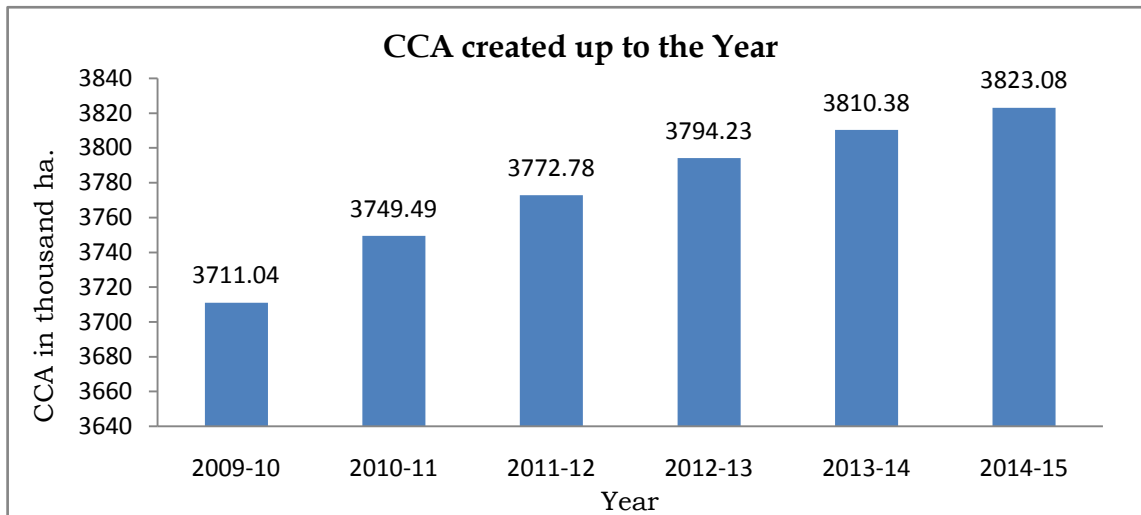
Parameter	Share of State in Nation (in %)
Area	10.41
Population	5.67
Livestock	10.69
Cultivable area	13.88
Surface water	1.16
Ground water	1.70

7.2 Total 3820.84 thousand ha. Culturable Command Area (CCA) has been created up to March, 2015 in the State.

Table No.7.2
Year-wise CCA Created during the Last Six Years
(in thousand ha)

Year	CCA created during the Year	CCA created up to the Year
2009-10	66.85	3711.04
2010-11	38.45	3749.49
2011-12	23.29	3772.78
2012-13	21.45	3794.23
2013-14	16.15	3810.38
2014-15	12.70	3823.08

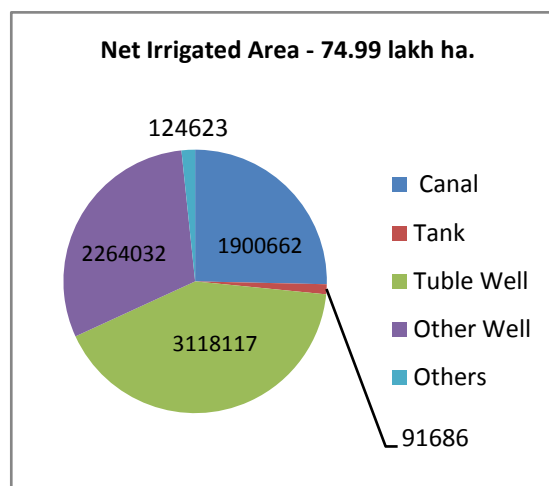
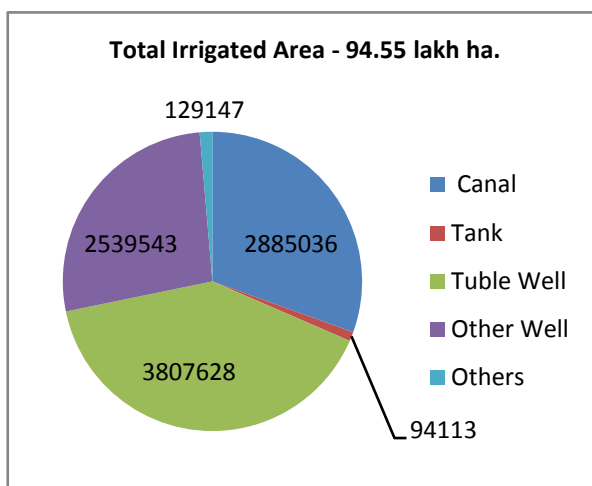




7.3 The net irrigated and total irrigated area by Canal, Tank, Tube well, Other Well and other sources in 2012-13 is 7499120 ha and 9455467 ha. respectively. The details of source wise irrigation are given in the following table:

Table No. 7.3
Source wise irrigation in 2012-13

Source	(Area in ha)					Total
	Canal	Tank	Tube Well	Other Well	Other Sources	
Net Irrigated	1900662	91686	3118117	2264032	124623	7499120
Total Irrigated	2885036	94113	3807628	2539543	129147	9455467



7.4 The droughts put tremendous pressure on natural resources and lead to severe scarcity of water, food and fodder. The major causes of droughts are its geographical location not favouring abundant monsoon rainfall, poor and deep ground water limiting its uses for irrigation, absence of perennial rivers and forests, the poor water holding capacity of the soil and huge withdrawal of limited ground water resources. The increased pressure of

both human and livestock population during the last decade has also affected the land, vegetation and surface/ground water resources.

7.5 There are 15 defined river basins in the State. The total available water in the State is 21.7 BCM, out of which 16.05 BCM surface water is utilizable economically. So far, 11.85 BCM surface water has been harnessed, which is 73.83 per cent of the economically surface water.

7.6 Both surface water resources and ground water resources are a matter of immediate concern for the State. Therefore, conservation, preservation and optimum utilization of every drop of water constitute the core of water resources planning and management in the State. The role of the State in the integrated development of water resources is gradually evolving from that of owner to that of facilitator. The State Water Policy focuses on paradigm shift from engineering bases solutions to community based management system. Thus the role of Water User Associations (WUAs) and NGOs assumes greater importance in water management. The focused attention in the Twelfth Plan period would be on harnessing the remaining surface water, reducing gap between irrigation potential created & utilized, strengthening WUAs, water harvesting, improve irrigation efficiency with shift from surface irrigation to adoption of drip & sprinkler irrigation system and from traditional cropping pattern to new less water requiring crops.

7.7 The challenges of water sector are many facets. Following are some of the important issues which have to be addressed by the strategic planning in water sector:

- Growing imbalance between demand and supply of water. The present deficit of about 8 BCM and it is likely to increase to 9 BCM by 2015.
- Inequality of access and uncertainty of water, deteriorating water quality, high cost of service, low recovery of cost and low expenditure on O & M.
- Lack of ownership among the stakeholders.
- Low water charges.
- Out dated and unaccountable governance institutions for water management.
- Over exploitation of ground water.
- Lack of consensus among stakeholders on water sector reforms.

7.8 The above background leads to the following priorities and activities for water resources development and management:

- Optimum development and utilization of water resources on sustainable basis.
- Integrated water resources planning.

- Improving irrigation efficiency : more crop per drop of water
- Providing flood protection and drainage facilities
- Ensuring proper functioning of existing structures, conveyance systems and other assets through adequate maintenance and operation.
- Minimizing 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.
- Advancing the technological and scientific level of all the staff in the water sector through intensification of applied research, technology transfer, training and education.
- Facilitating private initiative in development, operation and management of water projects.
- Human Resource Development.
- Institutional reforms.
- Water charges rationalization.
- Water resources information systems and awareness campaign

7.9 An outlay of ₹ 785390.53 lakh was fixed for water resources sector for the Twelfth Plan. An expenditure of ₹ 152222.58 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 153662.46 lakh. An outlay of ₹ 171907.86 lakh is proposed for the Annual Plan 2015-16 which includes ₹ 33205.43 lakh of Central Assistance. Sub sector-wise details are given in the following table:

Table No. 7.4
Financial Outlays & Expenditure for Water Sector

(₹ in lakh)

S. No.	Scheme	Twelfth Plan Outlay	OUTLAY 2014-15	Likely Exp. 2014-15	Outlay 2015-16
1.	Water Resources	597884.16	100547.12	100645.01	109307.64
2.	Ground Water	7500.00	65.78	65.78	140.00
3.	Command Area Development	72506.37	26430.73	25515.90	30602.60
4.	IGNP	107500.00	26618.83	25995.89	31857.62
	Total	785390.53	153662.46	152222.58	171907.86

WATER RESOURCE DEPARTMENT

7.10 The emphasis has been laid on harnessing of maximum water resources by investing enormous funds over plan periods (1951-2012). Irrigation potential has been increased from 4.00 lakh ha (1951) to level of 38.10 lakh hectares by March, 2014 with the construction of 119 major & medium and 3322 minor irrigation projects. Work on major irrigation projects viz. Narmada, Project, Yamuna Water Project, Kalisindh Irrigation Project, Parwan Project, Modernization of Gang Canal and Narmada, 6 medium irrigation projects viz. Gararda, Takli, Piplad, Lhasi, Gagrin, Rajgarh and 48 minor irrigation works are in progress.

7.11 An outlay of ₹ 597884.16 lakh was kept for various irrigation projects for the Twelfth Plan period. Additional irrigation potential of 67.97 thousand ha is to be created during the Twelfth Plan period against this 48.06 thousand ha. CCA has been created upto March, 2015. An expenditure of ₹ 100645.01 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 100547.12 lakh. An outlay of ₹ 109307.64 lakh is proposed for the Annual Plan 2015-16 which includes ₹ 7146.00 lakh of Central Assistance. 13.26 thousand ha. additional CCA will be created during the year 2015-16. Scheme-wise details are given in the following table:

Table No. 7.5
Proposed Financial Outlays

(₹ in lakh)

S. No.	Scheme	Twelfth Plan Outlay	Outlay 2014-15	Likely Exp. in 2014-15	Outlay 2015-16
1.	Multi-purpose Projects	0.10	2886.40	3236.39	2145.00
2.	Major Projects	233078.83	23503.38	24140.67	19201.07
3.	Medium Projects	80016.00	9342.93	9517.93	5481.27
4.	Modernization of Gang Canal	29766.40	5913.40	5913.40	5994.50
5.	Minor Projects	243249.93	52112.76	52171.25	68172.25
6.	Water Management Services	9260.05	6489.36	5367.37	7513.54
7.	Flood Control	2512.85	298.89	298.00	800.01
	Total	597884.16	100547.12	100645.01	109307.64

Multi-Purpose Projects

7.12 For Various Multi-purpose projects, an expenditure of ₹ 3236.39 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 2886.40 lakh. An outlay of ₹ 2145.00 lakh is proposed for the Annual Plan 2015-16.

Major Irrigation Projects

Central Assistance Projects

Narmada Project (under AIBP)

7.13 Narmada Canal Project was taken up to utilize 0.5 Million Acre Feet (MAF) of Narmada water allocated to Rajasthan from Sardar Sarova Project, Gujarat. The share of water was to be delivered at Rajasthan-Gujarat border through 458 Km. long Narmada Main Canal (NMC). The water of river Narmada reached Rajasthan in the month of March, 2008. The canal system would provide irrigation in 2.46 lakh ha by adopting improved method of irrigation i.e. sprinklers irrigation system which is mandatory in this project. CCA of 2.38 lakh ha has been created up to March 2014. CCA of 2000 ha is likely to be created during 2014-15. The project would also provide drinking water facility to 1336 villages & 3 towns. Revised sanctioned cost of the project is ₹ 248149.00 lakh as approved by Planning Commission. An expenditure of ₹ 212048.89 lakh has been incurred up to March 2014. An expenditure of ₹ 18000.00 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 18000.00 lakh. An outlay of ₹ 15100.00 lakh is proposed for the year 2015-16. This includes Central Assistance of ₹ 3489.82 lakh. CCA of 6407 ha. will be created during 2015-16. The project is likely to be completed by March, 2016.

Modernization of Gang Canal (under AIBP)

7.14 The Gang Canal project is under operation since 1927 to provide irrigation in Sriganganagar district. The canal system has deteriorated over the years. The modernization project was prepared for the lining of Bikaner Canal in Punjab and canal system in Rajasthan portion. The project was started in 2000-01 and revised cost of the project (at 2008 price level) is ₹ 62142.00 lakh under AIBP. An expenditure of ₹ 57773.63 lakh has been incurred up to March, 2014. Under the project, additional irrigation potential of 96.51 thousand ha was to be created, out of which 95.88 thousand ha has been created up to March, 2014. An expenditure of ₹ 5913.40 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 5913.40 lakh. CCA in 266 ha is likely to be created during 2014-15. An outlay of ₹ 5994.50 lakh is proposed for the year 2015-16, this includes Central Assistance of ₹ 1495.75 lakh. CCA of 265 ha. will be created during 2015-16. This Project is expected to be completed in 2015-16.

State Project

Yamuna Water Project

7.15 For utilization of 3195 Cusec Yamuna water allocated in 22nd meeting of Upper Yamuna River Board. Two separate major projects namely (i) Yamuna Water project for Bharatpur district and (ii) Yamuna Water Project for Jhunjhunu and Churu districts. An expenditure of ₹ 364.00 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 50.00 lakh. An outlay of ₹ 50.00 lakh is proposed for the year 2015-16.

Parwan Irrigation Project

7.16 Parwan major irrigation cum drinking water project was proposed to be constructed in Jhalawar District on Parwan River near village Akawad for providing irrigation to 131400 ha land of Kota, Baran and Jhalawar districts. The total cost of this project is ₹ 236043.00 lakh. An expenditure of ₹ 491.05 lakh has been incurred up to March, 2014. An expenditure of ₹ 129.82 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 129.82 lakh. An outlay of ₹ 1500.00 lakh is proposed for the year 2015-16.

Kalisindh Irrigation Project

7.17 Kalisindh Major Irrigation Project is proposed to be constructed on Kalisindh river near Bhanqarasa in Jhalawar district which will create an irrigation potential of 14438 ha. Estimated cost of the project is ₹ 41676.00 lakh. Central Water Commission (CWC) has approved the project. CWC had conveyed, in- principle consent for preparation of DPR.

Dholpur Lift Irrigation Project

7.18 Dholpur Lift Irrigation Project is proposed to be constructed to irrigate 34665 ha land of Dholpur district. The hydrology of the project has been cleared by CWC, New Delhi with an estimated cost of ₹ 9060.00 lakh. Scheme includes 7.5 ha forest land (0.3 ha in Ghadyal Sanctuary and 7.2 ha in reserve forest). Case has been submitted for clearance to the CWC for 0.3 ha..

Major ERM Projects

7.19 For strengthening of existing Major Projects 29 works have been sanctioned during 2012-13 to 2014-15. Approved estimated cost of these works is ₹ 35422.89 lakh, out of which an expenditure of ₹ 8545.66 lakh has been incurred up to March, 2014. An expenditure of ₹ 416.27 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 166.27 lakh. An outlay of ₹ 225.00 lakh is proposed for the year 2015-16.

Medium Irrigation Projects

Gardada Irrigation Project

7.20 This irrigation project is under construction on river Mangli Dungari & Ganesh Nallah, 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 9000 ha. The work on this project was started in 2003. The estimated cost of the project is ₹ 24616.00 lakh. An expenditure of ₹ 13367.56 lakh was incurred up to March, 2014 and 950 ha CCA was created. An expenditure of ₹ 300.00 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 300.00 lakh. An outlay of ₹ 820.97 lakh is proposed for the year 2015-16.

Takli Irrigation Project

7.21 Takli irrigation cum drinking water supply project is under construction on river Takli, a tributary of Amjar and Kalisindh rivers. The dam site is located near village Dhankya in Kota district. The project would provide irrigation facility in an area of 7386 ha and drinking water facility to 4 villages and 2 towns of Ramganjmandi tehsil of Kota district. The revised cost of the project is ₹ 13144.00 lakh, out of which an expenditure of ₹ 10154.95 lakh was incurred up to March, 2014. An expenditure of ₹ 1000.00 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 1447.37 lakh. An outlay of ₹ 0.05 lakh is proposed for the year 2015-16.

Piplad Irrigation Project

7.22 Piplad irrigation project is under construction on river Piplad, a tributary of Ahu river. The dam site is located near Sulia Chowki village in Bhawanimandi tehsil of Jhalawar District. The project would provide irrigation in an area of 4688 ha in 19 villages of Pachpahar tehsil. The estimated cost of the project was ₹ 9120.65 lakh. CCA of 4000 ha has been created up to March, 2014 by incurring an expenditure of ₹ 7729.41 lakh. An expenditure of ₹ 100.00 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 964.91 lakh. An outlay of ₹ 0.04 lakh is proposed for the year 2015-16. The project will be completed during the year 2015-16.

Gagrin Irrigation Project

7.23 Gagrin medium irrigation project is under construction on river Ahu, a tributary of Kalisindh river. The dam site is located near Kalapipal village of Pachpahar tehsil of Jhalawar district. The project would provide irrigation in an area of 7943 ha. Estimated cost of the project was ₹ 18529.00 lakh. An expenditure of ₹ 9305.18 lakh has been incurred up to March, 2014. An expenditure of ₹ 1429.82 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 964.91 lakh. An outlay of ₹ 0.08 lakh is proposed for the year 2015-16.

Lhasi Irrigation Project

7.24 Lhasi medium Irrigation Project envisages construction of earthen dam on river Lhasi near Khajuria village of Chhipabarod tehsil of district Baran. The project would provide irrigation in an area of 4026 ha. The revised cost of the project was ₹ 10695.00 lakh. An expenditure of ₹ 11616.07 lakh was incurred up to March, 2014. An expenditure of ₹ 1460.39 lakh has been incurred in 2013-14. An expenditure of ₹ 975.43 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 675.43 lakh. An outlay of ₹ 0.05 lakh is proposed for the year 2015-16.

Rajgarh Irrigation Project

7.25 This irrigation cum drinking water project is under construction on the confluence of Ahu and Kanthari rivers of Jhalawar district for providing irrigation to 6827 ha land of Jhalawar district. Estimated cost of the project was ₹ 19213.00 lakh. An expenditure of ₹ 2197.09 lakh has been incurred up to March 2014. An expenditure of ₹ 1929.77 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 1929.77 lakh. An outlay of ₹ 2000.00 lakh is proposed for the year 2015-16.

New Medium Irrigation Projects:

7.26 Following new medium irrigation projects are proposed to be constructed under State Plan.

Manoharthana Irrigation Project:

7.27 This irrigation cum drinking water project was proposed to be constructed on Parwan River in Jhalawar district for providing irrigation to 9800 ha. land of Jhalawar district. Estimated cost of the project is ₹ 9310.00 lakh. Environmental clearance from State Environment Authority under State Pollution Department (constituted by MoEF, New Delhi) is yet to be obtained. An expenditure of ₹ 15.43 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 15.43 lakh. An outlay of ₹ 20.00 lakh is proposed for the year 2015-16.

Hatiyadeh Irrigation Project:

7.28 This irrigation project envisages construction of earthen dam on Hatiyadeh Nalla near Karwari Khurd village of Kishanganj tehsil in Baran district for providing irrigation to 6885 ha land of Baran district. Estimated cost of the project is ₹ 7066.00 lakh. This project is delayed due to want of Inter State Clearance from Madhya Pradesh as per requirement of Central Water Commission for further processing the DPR.

Andheri Irrigation Project:

7.29 This irrigation project envisages construction of earthen dam on river Andheri near Mundkiya village of Chhipabarod tahsil in Baran district for providing irrigation to 7700 ha land of Baran district. Estimated cost of the project is ₹ 8753.00 lakh. This project is delayed due to want of Inter State Clearance from Madhya Pradesh as per requirement of Central Water Commission.

Minor Irrigation Projects

7.30 The irrigation projects having CCA less than 2000 ha are called as minor irrigation projects. These projects have low cost and are completed in short gestation period. Such works create irrigation 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 ₹ 40304.93 lakh was incurred up to March 2014 for 50

ongoing works. An expenditure of ₹ 52171.24 lakh is likely to be incurred in the year 2014-15 against an outlay of ₹ 52112.76 lakh. An outlay of ₹ 24516.70 lakh is proposed for the year 2015-16, which includes Central Assistance of ₹ 2160.01 lakh. In addition two minor irrigation projects (Guradia and Roshanbari of Jhalawar districts) of cost ₹ 100.00 crore will be taken up during the year 2015-16.

Four Water Concept

7.31 For the use of rain water, surface water, soil water and ground water under four water concept, work of Micro Irrigation Projects and Check Dams on Bunad river of Mahi Basin and Ahu river of Chambal Basin has started under a pilot project. After that, the project has been implemented in the entire State and 499 works of micro irrigation and check dams amounting to ₹ 1229.00 crore has sanctioned in Mahi, Chambal, Sabarmati, Luni, Sukali and West Banas basin. The work of 304 micro irrigation projects and 195 check dams have been included in these works. An outlay of ₹ 9033.32 lakh for check Dams & ₹ 34622.23 lakh for micro irrigation projects have been proposed for the year 2015-16 under Four Water Concept.

GROUND WATER DEPARTMENT

7.32 The water supply schemes in Rajasthan are basically dependent on ground water. There is acute stress on Ground Water reserves in the State on account of agricultural activities. Approximately 90 per cent extraction of ground water is for agricultural purpose. The exploitation of ground water in the State is 137.07 per cent in comparison to recharge. The condition has become more critical due to uncertain and scanty rainfall during the monsoon. Out of 243 blocks in the State, as per ground water Assessment Report 2011, only 24 blocks are in “safe” category, 20 in “semi critical category, 25 in “critical” and 172 in “overexploited” category. Two blocks are completely saline. The overall scenario of ground water availability is very grim.

7.33 The over exploitation of ground water has also resulted in deterioration of ground water quality. It is high time to harvest the rain water, which will help in replenishment of ground water resources in the State. Management of Ground Water should be carried out with participation of stake holders and in present scenario people participation is an effective tool for implementation of ground water related issue to manage it.

7.34 Following activities were proposed to be taken up during the Twelfth Plan.

- Strengthening of Water Level Monitoring System
- Ground Water Assessment & Publication
- Community Awareness on Ground Water Situation

- Human Resources Development & Capacity Building
- Preparation of Recharge Master Plan

7.35 An outlay of ₹ 7500.00 lakh was kept for the activities of the department for the Twelfth Plan. An expenditure of ₹ 65.78 lakh is likely to be incurred against an outlay of ₹ 65.78 lakh in 2014-15. An outlay of ₹ 140.00 lakh is proposed for the Annual Plan 2015-16.

COMMAND AREA DEVELOPMENT

Command Area Development & Water Utilization Department

7.36 The Command Area Development Program aims to bridge the gap between irrigation potential created and its early utilization. This is achieved through construction of lined water courses, agriculture extension, adaptive research, soil surveys, anti logging and land reclamation works out of which On Farm Development (OFD) works, soil surveys are carried out on 50 per cent Central sharing basis. The main objectives of CAD Programs are as follows:

- Efficient utilization of water, minimizing of water losses through lining of canals, increasing canal capacity, installation of control structures, dissemination of improvement techniques.
- Maximizing 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.

7.37 During the Twelfth Plan, the priorities of CAD projects are as follows:

- Enhancing water use efficiency by reducing losses
- Efficient utilization of water through people participation
- Land development to improve water use efficiency
- Capacity building for efficient utilization of land & water resources.
- Transfer of new technologies to farmers.

7.38 The following strategies will be adopted to achieve the objectives of the project.

- Rehabilitation of irrigation system of the project area.
- Providing institutional & financial support to farmer's organization to make them self-sustainable.

- Training of members of farmer organizations including exposure trips. Adaptive trials, demonstration and field days for farmers.

7.39 An outlay of ₹ 72506.37 lakh was kept for Command Area Development for the Twelfth Plan. An expenditure of ₹ 25515.90 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 26430.73 lakh. An outlay of ₹ 30602.60 lakh is proposed for the Annual Plan 2015-16, which includes Central Assistance of ₹ 5913.85 lakh.

7.40 Outlays kept for the various activities for the Twelfth Plan, likely expenditure in 2014-15 and proposed outlays for the Annual Plan 2015-16 are as follows:

Table No.7.6
Proposed Financial Outlays for CAD

(₹ in lakh)

S. No.	Project	Outlay Twelfth Plan	Outlay 2014-15	Likely Exp. in 2014-15	Proposed Outlay for 2015-16
1.	CAD Secretariat	395.00	120.46	112.56	126.72
2.	IGN Project, Bikaner	1890.37	391.48	357.89	387.04
3.	Sidhmukh Nohar	528.00	186.00	186.00	100.00
4.	Amarsingh Jassana	330.00	164.00	164.00	100.00
5.	Mandi Committee	450.00	100.00	100.00	100.00
6.	Gang Canal	23378.00	7665.13	7626.33	7746.73
7.	Bhakra Canal Project	6500.00	117.00	0.07	1552.83
8.	Chambal Project, Kota	31035.00	16519.78	15826.53	18335.94
9.	CAD, Bisalpur	8000.00	1166.88	1142.52	2153.34
	Total	72506.37	26430.73	25515.90	30602.60

Indira Gandhi Nahar Project, Bikaner

7.41 The following six CAD Projects are controlled by the Commissioner, Command Area Development, Indira Gandhi Nahar Project located at Bikaner.

- Indira Gandhi Nahar Project
- Sidhmukh Nohar Irrigation Project
- Amarsingh Jassana Sub Branch Irrigation Project
- Gang Canal Project
- Mandi Development Committee
- Bhakra Nahar Project

7.42 OFD works in the total area of Indira Gandhi Nahar Project, Bikaner were completed covering 47,119 ha area during the Eleventh Plan period. Farmers are being benefited by the various activities of the project like agriculture extension, adaptive research, soil survey anti water logging and land reclamation. An expenditure of ₹ 357.89 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 391.48 lakh. An

outlay of ₹ 387.04 lakh is proposed for the project for the Annual Plan 2015-16.

Sidhmukh Nohar Irrigation Project

7.43 This project covers 1,14,379 ha area of 99 villages of Hanumangarh and 14 villages of Churu district. Lined water courses were completed in 98,310 ha. area by the end of Eleventh Plan and in 374 ha during 2014-15. An expenditure of ₹ 186.00 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 186.00 lakh. An outlay of ₹ 100.00 lakh is proposed for the Annual Plan 2015-16 which includes central assistance of ₹ 50.00 lakh.

Amar singh Sub Branch Project

7.44 This project covers 50,702 ha area. OFD works in 31,738 ha area were completed during the Eleventh Plan. Lined water courses have been constructed in 32 ha. in 2014-15. An expenditure of ₹ 164.00 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 164.00 lakh. An outlay of ₹ 100.00 lakh is proposed for the Annual Plan 2015-16 which includes central assistance of ₹ 50.00 lakh.

Infrastructure Facilities in the Mandi Towns

7.45 Additional facilities of roads, drinking water and electrification are being provided in the mandi towns located in IGNP area. An outlay of ₹ 450.00 lakh was kept for the Twelfth Plan. An expenditure of ₹ 100.00 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 100.00 lakh and an outlay of ₹ 100.00 lakh is proposed for the Annual Plan 2015-16.

Gang Canal Project

7.46 This project covers an area of 2.32 lakh ha & OFD works are being undertaken in this CAD project in an area of 1.83 lakh ha as per sanction accorded by CADWM wing of Ministry of Water Resources (MoWR), GoI. The CAD project was started in 2011-12, lined water courses in 5731 ha area have been constructed during Eleventh Plan against the target of 11800 ha. It was proposed to construct lined water courses in 159700 ha area during the Twelfth Plan with an outlay of ₹ 23378.00 lakh. An expenditure of ₹ 7626.33 lakh is likely to be incurred against an outlay of ₹ 7665.13 lakh in 2014-15 for construction of lined water courses in 32000 ha area. It is proposed to construct lined water courses in 32000 ha area during the Annual Plan 2015-16 with an outlay of ₹ 7746.73 lakh. This includes Central Assistance of ₹ 2999.55 lakh.

Bhakra Nahar Project

7.47 An outlay of ₹ 6500.00 lakh was kept for the Twelfth Plan and an outlay of ₹ 1552.83 lakh is proposed for the Annual Plan 2015-16, which includes Central Assistance of ₹ 822.00 lakh to construct lined water

courses in 6000 ha. Sanction of this Project is awaited from Government of India.

CAD Chambal Project, Kota

7.48 This project was initiated in 1974. The Chambal Valley Development Scheme is a joint venture project of Madhya Pradesh & Rajasthan States for integrated command area development comprising irrigation, drainage works, OFD, agriculture & research activities. Water of the Chambal river has been harnessed in three phases by constructing dam and barrage across the river as under:

- In first phase Gandhi Sagar Dam, for storage of water & power production and Kota Barrage was constructed.
- In second phase Rana Pratap Sagar Dam was constructed between Gandhi Sagar and Kota Barrage for water storage and power generation.
- In third phase Jawahar Sagar Dam was constructed for power generation.

7.49 Total command area of Chambal Project in Rajasthan is 2,29,000 ha.

7.50 The Chambal Right Main Canal (CRMC) off takes from right side of Kota Barrage. It runs 124 km in Rajasthan and 248 km in Madhya Pradesh. It has 7 branches, 27 distributaries and minors having a total length of 1368.33 km and it irrigates 1.27 lakh ha land of Kota and Baran districts of Rajasthan. The designed carrying capacity of the canal is 6656 cusecs which is presently reduced due to non-availability of funds for maintenance and certain technical difficulties.

7.51 The Chambal Left Main Canal (CLMC) off takes from left side of Kota Barrage. It is 2.59 km long and further bifurcates into branches. Three branches, 27 distributaries and 180 minors of this canal system irrigates 1.02 lakh ha land of Kota and Bundi districts.

7.52 The Canal system was constructed long back and requires maintenance. To provide sufficient irrigation water in time to farmers up to the tail end, a project costing ₹ 127400.00 lakh was prepared for complete renovation of the irrigation system. The project will be financed by NABARD under RIDF. First phase of the project costing ₹ 15000.00 lakh has been sanctioned by NABARD. An expenditure of ₹ 15826.53 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 16519.78 lakh. An outlay of ₹ 18335.94 lakh is proposed for the Annual Plan 2015-16, which includes Central Assistance of ₹ 949.69 lakh.

7.53 Physical targets kept for various activities for the Twelfth Plan, achievements made in 2014-15 and proposed targets for the Annual Plan 2015-16 are as follows:

Table No.7.7
Proposed Physical Targets for CAD, Chambal Project

S. No.	Item	Unit	Target Twelfth Plan	Target 2014-15	Likely Ach. 2014-15	Target for 2015-16
1.	Canal Lining	km	430.000	124.940	144.00	110.00
2.	Earth Work	lakh Cum	22.000	16.430	12.700	13.83
3.	Training Program	Nos.	40	30	17	15
4.	One time grant to WUAs (Functional grant)(per ha)	ha	180000	6000	6000	6000
5.	OFD Survey	ha	57000	9000	6000	9000
6.	OFD Planning & Design	ha	57000	9000	4150	9000
7.	OFD Works	ha	57000	9000	5005	9000
8.	Canal structure/protection works	Nos.	1900	362	320	249

CAD Bisalpur Project, Tonk

7.54 This project is engaged in construction of lined water courses in the field of CAD Bisalpur, district Tonk in order to achieve the optimum water use & enhance water application efficiency. The project is implemented under Centrally Sponsored Scheme on 50:50 basis. A target of construction of water courses in 40166 ha and 4200 ha area were kept for the Twelfth Plan and the Annual Plan 2014-15 respectively.

7.55 An outlay of ₹ 8000.00 lakh was kept for the Twelfth Plan. An expenditure of ₹ 1142.52 lakh is likely to be incurred in 2014-15 against an outlay of ₹ 1166.88 lakh. An outlay of ₹ 2153.34 lakh is proposed for the Annual Plan 2015-16, which includes Central Assistance of ₹ 979.25 lakh.

Indira Gandhi Nahar Project (IGNP)

7.56 Indira Gandhi Nahar Project is the largest Project of water resource sector under implementation in the State with an objective to transform the desert waste land of West and North Western area of the State into agriculturally productive area. IGNP plays a major role in fulfilling water requirement of West and North-West part of the State by delivering share of State in surplus water of Ravi-Beas rivers under Inter-state agreement

7.57 For the convenience of the administrative control and 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. Main work in this stage has been completed. Indira Gandhi Main Canal downstream 189 km to tail along with distribution system (including Sahwa lift system) falls in stage-II, where works in lift schemes of Bikaner zone and flow area of Jaisalmer zone are in progress.

7.58 Due to less availability of water, the State Government has restricted CCA up to 16.17 lakh hectare out of earlier targeted 19.63 lakh ha. Canal construction works were completed in 16 lakh hectare up to March, 2014. Additional C.C.A. of 6735 hectare has been opened for irrigation during 2014-15 as targeted by completing necessary works of Phalodi lift scheme. Operation & maintenance and repair of canals in project area is also under progress. Apart from this, some other essential works like construction of Ditch minor to replace direct outlets on branches, replacement of pipe water courses by open water courses, repair/replacement of old pumps/motors and installation of additional pumps/motors on pumping stations to enhance their capacity. Replacement/ installation of gates on regulators etc. are also under progress.

7.59 An expenditure of ₹ 25995.89 lakh is likely to be incurred during the year 2014-15 against an outlay of ₹ 26618.83 lakh. An outlay of ₹ 31857.62 lakh is proposed for the Annual Plan 2015-16, which includes central assistance of ₹ 6798.00 lakh for sprinkler irrigation works in Stage-II lift schemes. It is proposed to open remaining 11000 hectare CCA to complete the project during the Annual Plan 2015-16.

Table No. 7.4
Financial Outlays & Expenditure for IGNP

(₹ In lakh)				
Scheme	Twelfth plan outlay	Outlay 2014-15	Likely Exp. 2014-15	Proposed Outlay 2015-16
IGNP (Bikaner & Jaissamer Zone) (excluding relining of IGF)	92500.00	21075.45	20452.58	25657.60
IGNP - Stage II (CE Hanumangarh)	0.00	3543.36	3543.31	4200.00
Relining of IGNP in Punjab (CE Hanumangarh)	15000.00	2000.02	2000.00	2000.02
Total	107500.00	26618.83	25995.89	31857.62