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Government of Rajasthan
Rajasthan Agricultural Competitiveness Project (RACP)

Operational Guidelines

for

Surface Water (Command Area) Sub Component



Approved By

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Abbreviations:

| | |
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| AAP | Annual Action Plan |
| BCM | Billion Cubic Meter |
| BER | Bid Evaluation Report |
| BSR | Basic Schedule of Rates |
| CACP | Cluster Agricultural Competitiveness Plan |
| CB | Capacity Building |
| CBO | Community Based Organization |
| CCA | Culturable Command Area |
| CRP | Community Resource Person |
| DC | Distributary Committee |
| DGS&D | Directorate General of supplies and Disposals |
| DPM | District Project Manager |
| DPMU | District Project Management Unit |
| FO | Farmer's Organisation |
| GoR | Government of Rajasthan |
| IFB | Invitation for Bid |
| IGNP | Indira Gandhi Nahar Project |
| IMTI | Irrigation Management Training Institute |
| MTG | Multi Task Group |
| NGO | Non-Government Organisation |
| PC | Project Committee |
| PIU | Project Implementation Unit |
| PMU | Project Management Unit |
| PIA | Project Implementation Agency |
| PRI | Panchayat Raj Institution |
| QC & EAP | Quality Control and Externally Aided Project |
| RACP | Rajasthan Agricultural Competitiveness Project |
| RFPMIS | The Rajasthan Farmers' Participation In Management Of Irrigation Systems |
| VRB | Village Road Bridge |
| WB | World Bank |
| WR | Water Resource |
| WUA | Water Users Association |

Surface Water (Command Area) Component

Component 1: Climate Resilient Agriculture (1A: Improving Water Use Efficiency)

1. Background:

Rajasthan the largest State in India is spread over an area of 3.42 lakh Sq.Km, which is 10% of the area of the Country. The State population as per census of 2011 is 68.62 million, which is nearly 5.5% of Country population.

Rajasthan has always been a water deficit area. The rainfall is erratic and there is a large variation in the rainfall pattern in the State. The average annual rainfall ranges from 100 mm in Jaisalmer to 800 mm in Jhalawar. The average annual rainfall of the State is 531 mm, for the 22 eastern districts, it is 688 mm whereas for the remaining western districts the rainfall is only 318 mm. The State has witnessed frequent drought and famine conditions in the past fifty years.

Total surface water available in the State is 21.71 BCM, out of which 16.05 BCM is economically utilizable portion. In addition to it 17.89 BCM is allocated through Inter-State agreements.

The State's Water Resources are scarce and the State's future development and prosperity depends largely on sustainable and efficient allocation and utilization of its scarce water resources. To achieve the objectives in the water sector, the Government of Rajasthan (GoR) is implementing a number of initiatives in the water sector and its various programs.

2. Surface Water Cluster:

Under Surface Water Clusters, canal command areas from Irrigation Projects / Gang Canal / IGNP Canal & Chambal Command system are selected as hydrological units. To achieve the objective under Surface Water Clusters the rehabilitation / modernization of canal system including canal structures and construction of needed canal structures would be done. Also installation and modernization of measuring devices would be taken up. The modernization of canal network will reduce the conveyance losses thus water use efficiency of the system would increase. With the increase in water saving crop production as well as other farm activities would possible in cluster. It will also develop and demonstrate the feasibility of water efficient agriculture as well as development of one or more value chain approaches.

The clusters finalised in consultation with Water Resources Department under RACP are:

1. Gudha Irrigation Project (CCA-11380 ha) Bundi
2. Orai & Bassi Irrigation Projects (CCA-12510 ha) Chittorgarh.
3. Left Main Canal (LMC) of Jakham Irrigation Project (CCA-19529 ha) Dhariyawad, Pratapgarh.
4. Z- Distributary of Gang Canal System (CCA-12218 Ha.) Sriganganagar.
5. Phoolasar Distributary of Charanwala Branch (CCA-17970 Ha.) IGNP, Bikaner.

6. Kheruwala Distributary of Charanwala Branch (CCA-20965 Ha.) IGNP, Jaisalmer.

7. Palaitha Sub Branch of Chambal Right Main Canal (CCA-8003 Ha.) Anta, Baran.

The jurisdiction of these clusters is as below:

| S. No | Name of Cluster | CCA in Ha. | Concern Executive Engineer | Concern Superintending Engineer | Concern Zonal Officer |
|-------|---|------------|---|-----------------------------------|--|
| 1 | Gudha | 11380 | Water Resources Division, Bundi | RPS & JS Dam Circle, Kota | Chief Engineer, WR Zone, Kota |
| 2 | Orai & Bassi | 12510 | Water Resources Division, Chittorgarh | WR Circle, Bhilwara | Addl. Chief Engineer, WR Zone, Udaipur |
| 3 | LMC of Jakham | 19529 | Water Resources Project Division, Dhariawad | WR Circle, Banswara | Addl. Chief Engineer, WR Zone, Udaipur |
| 4 | Z- Distributary of Gang Canal System | 12218 | Water Resources Division, Sriganganagar | WR Circle, Sriganganagar | Chief Engineer (North), WR Hanumangarh |
| 5 | Phoolasar Distributary of Charanwala Branch of IGNP | 17970 | Charanwala Branch Division-II, IGNP, Bikampur | PCM Circle, IGNP, Phalodi | Chief Engineer, IGNP, Bikaner |
| 6 | Kheruwala Distributary of Charanwala Branch of IGNP | 20965 | Charanwala Branch Division-II, IGNP, Bikampur | PCM Circle, IGNP, Phalodi | Chief Engineer, IGNP, Bikaner |
| 7 | Palaitha Sub Branch of Chambal Right Main Canal | 8003 | RMC Division – II, CAD, Anta | CAD, Chambal Project Circle, Kota | Chief Engineer CAD (East) Jaipur |

Planning and Implementation Agency:

Under re-structuring, the planning and implementation of Sub Plan related to Surface Water (Command Area) will be carried out by the Water Resources Department (GoR). All the procurement to implement activities under Surface Water Sub Plan will be done by Water Resource Department (WRD) as per Procurement Management Manual of RACP & World Bank Procurement Guidelines & Procedures. The Project Implementation Unit (PIU), WRD will submit Annual Action Plan along with procurement plan and other related documents to PMU for onward submission to the World Bank and competent level for approval / consent

before execution of activities. At the State Level Project Implementation Agency (PIU) is already established headed by Nodal Officer along with other supporting staff. A Project Implementation Agency (PIA) at cluster level is already established headed by the Executive Engineer in WRD, who will be responsible for planning and implementation of activities under surface water sub plan.

Quality Control & Quality Assurance will be done by the Quality Control & Vigilance Unit headed by Chief Engineer, Quality Control & Vigilance, Water Resources, Jaipur. Training to Water Resources officials and members of Farmers Organisations will be imparted by Irrigation Management & Training Institute (IMTI), Kota. Structures designing / approval as per need will be done from concerning Zonal Officer.

Facilitating Agencies:

For social mobilisation, community organization, support in planning and implementation, a Non-Government Organization (NGO) will be hired & deployed in the cluster by the RACP-PMU. The NGO will work in cluster under the supervision of all the line departments & overall supervision will be done DPMU established under RACP and NGO will support all the line departments at the field/cluster level in social mobilisation, community organization, implementation of technical activities etc. The task to be performed by the NGO are elaborated in detail in the ToR, prepared for the purpose. NGO will have its office in the cluster area to implement, supervise the field activities effectively & ensure coordination. The NGO will select one Community Resource Person (Water Master) for each Water Users Association among the command area farmers with a minimum Senior Secondary school educational qualification. Suitable honorarium to CRP will be paid from the project head and honorarium to be decided by the Water Resource Department in consultation with RACP-PMU. The honorarium will be paid on his satisfactory services recommendation by WUA Chairman. The capacity building of these CRPs will be done by NGO as per project requirement.

Role of CRPs will:

- maintain all farmers land holding record and update on yearly basis.
- make & maintain records related to crops sown in the area (season wise).
- collect irrigation charges regularly and deposit in bank account
- assist in conducting regular meetings and maintain the proceeding records
- create awareness in farmers regarding RFPMIS Act.
- assist in social / financial audit of WUA.
- assist in resolving farmers grievances at WUA level / department level.
- assist in planning & execution of the seasonal maintenance of canal system through WUA.
- assist in maintaining of records as per provision of RFPMIS Act.
- all other works required for creation of awareness among farmers to maintain and

owning the canal system.

One Programme Assistant (PA) (Surface Water) having graduate degree in Engineering (Civil /Water Resources) with 1 year of working experience will be deputed in PIU, WRD and one in each PIA of Water Resource Department for Surface Water Cluster through hired man power agency at PMU, RACP. All remunerations will be paid to PA by PMU through man power agency up to the project period. The Programme Assistant (PA) will directly work under control of Nodal Officer PIU WRD / concerning PIA / Executive Engineer WRD at cluster level. PA will assist PIA / field functionaries in planning, implementation, monitoring etc. activities in direction of concerning WRD officer.

Role of Programme Assistants: Programme Assistant will assist WRD in

- assessment of need of rehabilitation / modernization or construction of canal structures i.e. siphons, aqueducts, escape channels, service roads, falls, VRB, measuring devices, WUAs buildings etc.
- assessment of available water in Dam / water release through Canal Head Works regularly. Also ensure to maintain the all records related to canal operation
- carrying out the water use efficiency of canal network through water audit. During project activities water use efficiency shall be worked out with sufficient details regularly so that the improvement of the system efficiency could be visible after rehabilitation / modernization activities at the end of the project which is the main objective of the project.
- updation of the command area sajra / khasra map with latest revenue records.
- updation the outlet wise list of farmers with land holdings relating with concern WUAs.
- construction / maintenance of WUAs office buildings
- survey & design of canal system and related structures.
- preparation of drawing and estimates of the construction activities.
- preparation of Bid Documents as per World Bank guidelines.
- supervision of construction activities.
- submission of physical & financial progress in prescribed formats to PIU/PMU as well as DPMU of concern district.
- providing any other desired information to PIU / DPMU / PMU.
- any other project related activities as per need.

3. Objectives of Surface Water Management:

To achieve the objective of sub component under Surface Water Clusters, the rehabilitation / modernization of canal system & structures and construction activities as per the need would be done. Also installation and modernization of measuring devices would be taken up by

WRD. The modernization of canal network will reduce the conveyance losses thus water use efficiency of the system would increase. With the increase in water saving crop production as well as other farm activities would be possible in cluster.

The formation and strengthening of the Farmers Organizations i.e. Water Users Associations, Distributary Committees & Project Committees formed under **Rajasthan Farmers Participation in Management of Irrigation Systems Act 2000 (Act No.21 of 2000) (RFPMIS) by WRD**. The objectives are:

- To promote the distribution of water among the command area farmers on equitable basis.
- To promote the participation of Farmers Organizations in preparation and implementation of activities, implementation of canal operation plan and maintenance of canal network and canal structures.
- To promote awareness regarding due share of water and its receipt among farmers.
- To promote awareness regarding prevention of water theft in canal system.
- To promote awareness regarding availability of canal water and accordingly deciding its use.
- To promote awareness for collection of water charges and getting the due share from GoR for the canal maintenance.
- To promote regular meetings of FOs and resolution of dispute among members.
- To ensure optimum & judicious utilisation of canal water for the production activities.

4. Detailed Scope of Work:

(A) WRD will

- carry out diagnostic analysis through walkthrough survey of the canal network along with concern WUA's to identify and prioritization of the activities of rehabilitation/modernization of canals up to outlet through departmentally/hired agency. Also assess the need of rehabilitation/modernization or construction of canal structures i.e. siphons, aqueducts, escape channels, service roads, falls, VRB, measuring devices, WUAs buildings etc.
- assess the water storage in Dam / water received through Canal Head Works regularly. Also ensure to maintain regularly the record of the volumetric assessment of water released from canal head works.
- carry out the water use efficiency of canal network through water audit in detail. During project activities water use efficiency shall be worked out with sufficient details regularly so that after rehabilitation / modernization activities, the improvement of the system efficiency could be visible at the end of the project which is the main aim to be achieved.
- update the command area sajra / khasra map with latest revenue records.

- update the outlet wise list of farmers with land holdings relating with concern WUAs.
- critically analyse to provide the discharge measuring devices / calibration of canal structures / procurement of desired equipment's and ensure to execution of these in the project period.
- ensure formation /strengthening of WUAs.
- ensure the election of WUAs regularly.
- ensure updation & maintenance of all records (technical as well as PIM) to be / being maintained for the cluster under the RACP.
- ensure the construction / maintenance of WUAs office buildings and provide them the necessary furniture & computer equipment.
- analyse the water charges collection status and take necessary measures to improve a lot by removing hindrances if any, through FOs.
- ensure the participation of all WUAs farmers in operation & maintenance of canal system through organizing trainings at IMTI Kota and field visits for this task in the State or outside Rajasthan as per need through IMTI.
- ensure the distribution of available water amongst in all farmers of head and tail end of canal system on equitable basis. WARABANDI system in canal command area may be executed on priority basis.
- ensure to stop the unauthorized water outlets with the support of WUAs and as per State prevailing regulations.
- prepare the cluster surface water sub plan and submit to PMU to converge in CACP.
- prepare cluster wise Annual Action Plan (AAP) for the next year and submit to PMU for approval from competent level by the end of December in current year.
- ensure all procurement activities to implement under Surface Water Sub Plan will be done by Water Resource Department (WRD) as per Procurement Management Manual of RACP & World Bank Procurement Guidelines & Procedures..

Support from NGO (to be engaged by RACP) to WRD in following areas (Subject to agreement between RACPMIS & NGO): NGO will

- be responsible to assist in preparation of voter lists, election process to constitute the groups like Water User's Associations, Distributary Committee & Project Committee (as applicable). Assist in formation of sub committees as per the RFPMIS Act 2000.
- assist WUAs in selecting one community resource person (CRP) for each WUA from amongst the local, qualified youth, who is willing to carry out office and accounting work of the WUA.
- be responsible for the required capacity building of Members WUAs, DCs, PCs, Sub Committees and CRPs.

- visit each FO turn by turn, once in every two months for two days in each visit to assist and guide them so that they become fully functional and shall monitor the functions/activities required to be performed by them and bring to the notice of the concerned FO, competent authority with his suggestions to remedy the deficiencies and bottlenecks.
- monitor the status and facilitate the FOs for the following:
 - Establishing offices
 - Opening of Bank Account
 - Maintenance of the records, as per the operational guidelines
 - Constitution of the following five sub committees as provided in Chapter 12 Para 53 of RFPMIS rules 2002 in surface water cluster:
 - (a) Administration, Finance and resources sub committee
 - (b) Work Sub-committee (Nirman up samiti)
 - (c) Water Management and agriculture Sub Committee (Sinchai up Samiti)
 - (d) Monitoring, Evaluation and Training Sub-Committee
 - (e) Chak Samiti
 - Regular holding of General Body / Management Committee / Executive Committee meetings and recording of the minutes of the meeting in prescribed register.
 - Creating awareness about the role and responsibilities in the General Body / Management Committee / Executive Committee and all members of FOs.
 - Explaining procedures for execution of works by FOs.
 - Establishment of operational procedure for equity in distribution of water in surface water cluster.
 - Attending complaints received from general farmers and addressing of the same, including resolution of dispute among members
 - Preparation and implementation of operational & maintenance plan in surface water cluster
 - Annual Financial Audit
 - Annual social audit of records.
 - Arranging regular meetings between the Management Committee of FOs and their counterpart competent authority in irrigation as well as agriculture department in surface water cluster.
- assist FOs in collecting/sharing of water charges with GoR in surface water cluster

5. Preparation of Surface Water Sub Plan

A. Activities related to the Rehabilitation and Modernization of Canal and Structures:

a. Detailed Survey: WRD will

carry out the detailed survey of existing canal system through departmentally/hired agency. The detailed canal system survey undertaken as per need for the execution of rehabilitation/modernization of canal system showing the position of outlets, structures, falls, VRBs etc. to be carried out as per norms.

b. Design of Canal System & Related Structures preparation of cost estimate: WRD will

- analyse all available data, maps, sajra map for command area, draw off statement, details of schemes and reports, collect data on past incidence of water flooding and loss as may be available.
- ensure that the hydraulic efficient lined canal sections are to be designed with rehabilitation / modernization of the existing structures and also propose the new canal structures as per field requirements.
- ensure judicious water delivery for the whole command area famers through the canal network.
- prepare the detailed engineering designs & drawings for all sub components are to be got designed / approved by the concerning Zonal Officer.

c. Preparation of Detailed Project Report of Surface Water Sub Plan: WRD will

prepare all necessary drawings and detailed cost estimates as per latest applicable WRD BSR/ PWD BSR. The detailed project reports shall be prepared as per the sub plan components with due consultation of command area beneficiaries for inclusion of desirable rehabilitation / modernization activities as per technical norms and admissible costs under project.

d. Preparation of Phase wise Implementation Schedule: WRD will

prepare an implementation schedule of construction activities in phased manner for the project components. The comprehensive annual action plans (AAP) shall be prepared indicating physical & financial targets to implement the project activities.

B. WRD will prepare the implementation plan for following activities related to Farmers Organizations:

- a. form / update the farmers organizations under surface water clusters as per Rajasthan Farmers Participation in Management of Irrigation System (RFPMIS) Act 2000.
- b. to undertake the execution of construction / maintenance of WUA office buildings as per latest applicable WRD BSR/ PWD BSR through Community Contracting / Local Shopping.

- c. to provide computer set with printer, furniture etc.
- d. to organise the trainings of WUAs & departmental staff through Irrigation Management Training Institute (IMTI) Kota to enabling them for better participation in management of irrigation system.

C. NGO will assist to line departments in preparation of sub plan as per need.

6. Implementation of Surface Water Sub Plan

(A) Activities related to the Rehabilitation and Modernization of Canal and Structures: WRD will

- i. prepare Bid documents for each clusters following the World Bank procedures. Prepare the necessary documentation for procurement. The tender and contract preparation documents will include instruction to bidders; general and specific conditions of contract, technical specifications, bills of quantities, tender drawings, and forms of contract. The provision for establishment of Quality Control testing laboratory in the cluster for desired field tests, needed equipment's with staff and inspection vehicle facility to be provided by contractor during construction period shall be worked out with details and taken in Tender Document.
- ii. prepare Invitation for Bid (IFB) and submit the Bid Document to World Bank through PMU for approval.
- iii. invite the Bids after getting the approval of Bid Document from World Bank through PMU.
- iv. evaluate the received Bids and submit the Bid Evaluation Report (BER) to PMU for further approval by competent authority if required.
- v. award the contract after the approval of BER from World Bank.
- vi. submit the copy of contract agreement to PMU.

(B). Supervision of Constructions, Recording of Measurements and Quality Assurance of Civil Construction Activities in the Cluster: WRD will

- a. follow existing Quality Control Manual. The work of quality control assurance will be carried out by Quality Control Wing headed by Chief Engineer, Quality Control Water Resources, Jaipur.
- b. maintain all the relevant registers regarding progress and quality control data at each site etc.,
- c. undertake effective and regular supervision of works and ensure their quality and conformity with the standards and specifications prescribed in the contract.
- d. maintain inspection register at site to record objections/instructions raised by concerned authority.

- e. submit the reimbursement claims to PMU, duly certification of execution of works as per specifications in the desired formats regularly through PIU for onward submission to the World Bank.
- f. report periodically (Monthly/Quarterly/Yearly) progress of works (physical & financial progress) to PIU for onward submission to PMU.
- g. facilitate inspections of competent authorities and all concerned.
- h. responsible for implementation of the surface water sub plan activities within stipulated time.

(C) Activities related to Farmers Organizations:

- i. formation / updating of Farmers Organization as per RFPMIS Act 2000.
- ii. execution of construction / maintenance of WUA buildings through Community / Local Shopping procurement whichever is applicable.
- iii. Strengthening office set up of Farmers Organizations.
- iv. maintenance of records as per RFPMIS Act 2000.
- iv. execution of trainings of WUAs & departmental staffs through Irrigation Management Training Institute (IMTI) Kota / if needed necessary trainings may also be conducted in other suitable established Institutes.

7. Procurement Activities

All Procurement Activities under surface water sub plan would be carried out by WRD in accordance with the Approved Annual Action Plan, Procurement Plan, Procurement Management Manual and WB's "Guidelines Procurement of Goods, Works and Non consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers; and Guidelines Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers and the provisions stipulated in the Financing Agreement, guidelines laid out in procurement manual and as per the circular issued time to time related to the procurement.

8. Maintenance of Records

All records pertaining to planning and implementation surface water sub plan activities under project shall be well maintained at cluster level and PIU level and would be made available to PMU as per need.

9. Release of Funds

Funds will be released to Budget Controlling Officer of Water Resource Department under RACP from RACP-PMU through Agriculture Department as per need, approved annual action plan and the physical progress of works, duly recorded in registers and verified for correctness. Flow of funds would be done as per the Finance Manual.

10. Audit & Accounting

Audit & accounting is an important activity under the project. WRD will be fully responsible for all kind of auditing & accounting for the utilized funds by WRD in planning and implementation of surface water sub plan activities under the project.

11. Work Completion Certificate

After completion of the activity executed by department / concern authority (it will be decided during course of execution by PIU in consultation with RACP-PMU) will issue a “*Work Completion Certificate*” for each activity and certify that the activity has been completed as per the plan, and the quality of work is good and serve the purpose. Project Implementation Unit (PIU) will provide a standard format for this certificate.