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AGRICULTURE & FARMERS' EMPOWERMENT DEPARTMENT

NOTIFICATION

The 22nd February, 2021

Sub: Programme for science-based watershed development on saturation approach: Rejuvenating Watersheds for Agricultural Resilience through Innovative Development (REWARD)

No.3822—DSCWD-SCHII_MISC-0001/2019/A&FE.— The State Cabinet in their 24th meeting held on the 9th February, 2021 have approved the proposal for science-based watershed development on saturation approach: Rejuvenating Watersheds for Agricultural Resilience through Innovative Development (REWARD). REWARD will support the next phase of the Government of India's (Gol's) watershed development program WDC-PMKSY. Further to scientific development of land resources, the Programme intends to disseminate agriculture resilient crop practices and support informed interventions along the value chain of select crops through supporting investments in Farmer Producer Organisations (FPOs) and market linkages.

1. Introduction:

Three States including the State of Odisha have been selected to participate in the World Bank supported project "Rejuvenating Watersheds for Agricultural Resilience through Innovative Development (REWARD)" as they meet specific qualifying and readiness criteria. The other two States are Karnataka and Andhra Pradesh. The programme envisages modern tools and comprehensive cadastral level data for more efficient integrated planning and shift monitoring systems to an approach that measures broader results and impacts. This will leverage the State's wealth of expertise developed in the field of Watershed Management.

2. Background:

2.1. Government of Odisha is dedicatedly working towards development of farmers and is committed to hike farmers' income. Agriculture being the prime source of income in

Odisha and the key to the reduction of rural poverty, all Government's policies and programmes including the New Agriculture Policy (2020) – **SAMRUDHI** have aimed at achieving rapid agricultural growth through optimum utilization of land, water, soil and plant resources. Odisha farmer's income has grown more than seven times or at a compound annual growth rate (CAGR) of 16.5 per cent in nominal terms and 8.4 per cent in real terms during the period 2002-03 and 2015-16. Odisha's agricultural GDP has doubled in real terms in the last 16 years, clocking an average annual growth rate of about 4.5 per cent, higher than all India average of 3.1 per cent.

2.2. The strategy for doubling farmers' incomes has enlisted Participatory Watershed Development Program as a priority area, which is accepted as an integrated approach to conserve water, land and biodiversity resources as well as improvement of local livelihoods through enhanced and diversified production. In 2009, the Integrated Watershed Management Programme (IWMP) was launched, which marked the consolidation of various watershed development schemes and guidelines (such as National Watershed Development Project in Rainfed Areas, Integrated Wasteland Development Programme and Drought Prone Area Programme etc.) under an integrated programme. In 2015-16, the IWMP became a component of the GoI's flagship program– Pradhan Mantri Krishi Sinchayee Yojana (WDC-PMKSY).

2.3. Odisha has a good institutional architecture to manage watershed programme. The State has successfully delivered programmes of Ministry of Agriculture, Ministry of Rural Development and Planning Commission etc., as well as externally aided projects such as Indo-Danish Comprehensive Watershed Project (IDCWDP) and Western Odisha Rural Livelihood Project (WORLP). Reliable services are on ground to increase people's participation in development through Community Based Organisations (CBOs) such as Watershed Associations (WAs), Self Help Groups (SHGs), Common Interest Groups (CIGs) and User Groups (UGs). Instructions have been issued for effective convergence and wider participation of line department officers in the watershed programme.

2.4. A review of the performance of the State's watershed projects has revealed their potential for drought-proofing, agricultural growth, environment protection and employment generation. Several impact studies by Odisha Space Application Centre (ORSAC), National Institute of Rural Development and Panchayati Raj(NIRD&PR), National Remote Sensing Centre (NRSC) etc. as well as third party agencies have reported positive changes in irrigation potential, crop intensity, crop canopy , production, productivity and household incomes resulting from watershed projects. Independent Commission on Aid

Impact (United Kingdom) has given the best rating of GREEN to Western Odisha Rural Livelihood Project (WORLP).

2.5 Although substantial progress has been made in terms of approach, strategy and operational scale, there are still issues (such as non-availability of cadastral level land resource information, weak community capacities and lack of incentives for post project sustainability etc.) impeding ‘scale up’ the processes and successful management outcomes. There is a growing need to focus on the demand side of groundwater management, crop selection based on land suitability assessment, and greater value addition for increased productivity and incomes. Improving impacts from watershed program requires a more science-based and data-driven approach, stronger institutional capacities, and greater attention to specific farmers’ needs.

2.6 Odisha has a total geographical area of about 15.57 million ha, which is divided into 20,079 micro-watersheds. Of these, 16,873 are treatable and 7,721 have been taken up so far under different schemes. A total of 9,152 micro-watersheds covering an area of about 8.6 million ha are yet to be treated. The WDC-PMKSY (erstwhile IWMP) has been the main source of funding for watershed development in the State, which is ending in March, 2021. A new follow-up national programme is awaiting cabinet approval. However, support is needed to help the State implement the new generation watershed programme effectively at scale, demonstrate successes, and learn lessons for further program improvements.

2.7. Hence, with this background, the REWARD has been conceived. The State of Karnataka has been identified to have an additional role as a ‘lighthouse’ State that will enable knowledge exchange and provide capacity building support to other States because of its experience in implementing science-based watershed planning and monitoring at a fairly large scale.

3. Programme Description:

3.1 “P for R” (Programme for Results) Programme :The REWARD is a P for R (Programme for Results) programme. The disbursement of World Bank assistance will be subject to evidence of Programme achievements against mutually agreed Disbursement Linked Indicators (DLIs). The DLIs are being finalized in consultation with World Bank considering the need to signal critical actions in the achievement of the Project Development Objective (PDO).

3.2 Project Development Objective & Result Areas:The Project Development Objective (PDO) of REWARD is to “Strengthen capacities of national and State institutions to implement science-based watershed development for improving farmers’ resilience and

soil moisture outcomes in selected watersheds of participating States and to support mainstreaming across States.

The Program focuses on the following two key result areas which are inter-linked and mutually reinforcing.

Result Area 1: Strengthened Institutions and Supportive Policy for Watershed Development

Result Area 2: Science-based Watershed Development and Enhanced Livelihoods.

3.3 Geographic Scope: REWARD is planned to develop 17 Green field sites to establish model watersheds and create Land Resource Inventory (LRI) data for an area of 5.26 lakh hectares. 705 micro watersheds have been selected in seven Districts for developing improved data bases. This includes selection of 152 micro watersheds in five pilot Districts to establish model watersheds. Land Resource Inventory (LRI) data will be made available in the Digital Library, out of which 1.15 lakh hectares of land will be treated for scientific watershed development on saturation approach.

The details of the Districts and areas for developing green field sites and Land Resource Inventory Activities are appended below.

District Wise Proposed Clusters of Micro Watersheds for Green Field Sites (Pilot)

Sl.No.	Name of District	Name of Block	Number of Micro Watersheds	Geographic Area (Hectares)
(1)	(2)	(3)	(4)	(5)
1	SAMBALPUR	BAMRA	9	7210.84
		KUCHINDA	9	7670.87
		JAMANKIRA	9	7139.76
		RAIROKHOL	11	7611.42
		RENGALI	10	7186.03
		NAKTIDEUL	11	7234.92
		SUB TOTAL	59	44053.84
2	DHENKANAL	KANKADAHADA	13	6836.85
		HINDOL	10	6470.85
		SUB TOTAL	23	13307.7
3	NAYAGADA	ODAGAON	7	5847.79
		DASPALLA	10	7029.3
		SUB TOTAL	17	12877.09

(1)	(2)	(3)	(4)	(5)
4	DEOGARH	BARKOTE	8	6111.94
		REAMAL	8	6626.91
		SUB TOTAL	16	12738.85
5	KORAPUT	BORIGUMA	8	6680.54
		JAYPORE	6	6798.38
		KORAPUT	9	6439.21
		LAMTAPUT	8	6884.66
		BOIPARIGUDA	6	5603.22
		SUB TOTAL	37	32406.01
TOTAL			152	115383.49

District Wise Proposed Clusters of Micro Watersheds for additional Land Resource Inventory

Sl.No.	Name of District	Name of Block	Number of Micro Watersheds	Geographic Area (Hectares)
(1)	(2)	(3)	(4)	(5)
1	SAMBALPUR	KUCHINDA	29	19516.87
		RAIROKHOL	67	49621.06
		JUJUMURA	25	22604.38
		SUB TOTAL	121	91742.31
2	DHENKANAL	KANKADAHADA	37	21912.4
		HINDOL	30	19653.08
		SUB TOTAL	67	41565.48
3	NAYAGADA	RANAPUR	18	11147.5
		ODAGAON	9	5431.42
		DASPALLA	28	19656.98
		SUB TOTAL	55	36235.9
4	DEOGARH	BARKOTE	28	19276.54
		REAMAL	38	27873.12
		SUB TOTAL	66	47149.66

(1)	(2)	(3)	(4)	(5)
5	KORAPUT	BORIGUMA	19	14401.85
		JAYPORE	24	18572.94
		BOIPARIGUDA	17	15137.83
		SUB TOTAL	60	48112.62
6	NAWARANGPUR	RAIGHAR	29	30151.82
		UMARKOTE	10	8884.49
		SUB TOTAL	39	39036.31
7	SUNDERGARH	LEFRIPADA	46	35490.86
		SUNDERGARH	28	22194.25
		BALISANKARA	30	24191.41
		BARGAON	18	11634.85
		KUANARMUNDA	23	13958.21
		SUB TOTAL	145	107469.58
TOTAL			553	411311.86

3.4 Science based, Data driven Watershed Planning & Management: Having better quality and more precise cadastral level data will lead to more efficient watershed planning, investments and improved climate resiliency. The proposed Land Resource Inventory (LRI) - an assessment of the status and changing condition of soil, water and other related land resources at the cadastral level will empower the farmers through informed decisions on crop selection, crop management, weather information, nutrient advice, crop water management, market information and conservation needs. The program will facilitate consolidation of LRI, hydrology and other data; coding and uploading the data to the digital library; and applying required Decision Support System (DSS) tools to planning and execution.

Capacity building for data-driven and science-based approaches to develop and implement Detailed Project Reports, and monitoring will help mitigate environmental risks related to hydrology, soil erosion, soil moisture, and fertilizer use, among others. Also, capacity building related to dissemination of LRI cards will help improve decision making by farmers on appropriate crop selection and agriculture practices.

The Program will undertake appropriate trainings for the Community Based Organisations (CBOs) and Gram Panchayats, design Standard Operating Procedures (SOPs) for different project cycles, promote Information, Education and Communication (IEC) activities to build awareness of target communities.

3.5 Farm Livelihoods and Value Addition: Scientific development of land resources, adoption of agriculture resilient crop practices coupled with value-chain development through supporting investments in Farmer Producer Organizations (FPOs) will impact farmers and they would have a greater probability of generating higher yields, gross revenue, and net income.

3.6 Programme Beneficiaries: The program seeks to put communities at the centre of watersheds, but with strong science-based tools available to them for decision making. The primary beneficiaries are the communities in rainfed areas that rely on sustainable land and water resources for livelihoods and ecosystem services. In particular, it will have positive impacts on women, small marginal farmers, and agricultural labourers. The efforts to ensure social inclusion in watershed planning and management will enhance the benefits that accrue to the most vulnerable.

There will be 1,90,000 direct beneficiaries. 1,80,000 farmers will receive LRI and/or weather based agro-advisory information. It is expected that 10,000 poor / landless will diversify livelihood activities and 36,000 farmers will adopt a core set of resilient agriculture technologies and practices by the end of the project period.

4. Programme Implementation:

4.1 Governance and Implementation Arrangements : Directorate of Soil Conservation & Watershed Development (DSC &WD) will be the nodal agency of the REWARD Program, with responsibility to prepare annual work plan and carrying out program activities through its District and block structures.

REWARD will follow Operational Guidelines for the Govt. of India's next generation watershed programme. State Level Sanctioning Committee (SLSC) under the chairmanship of the Chief Secretary will oversee project management and sanctioning of Annual Action Plans. State Level Nodal Agency (SLNA) under the chairmanship of the Agriculture Production Commissioner (APC) will oversee project coordination, convergence and management. At District level, Watershed Cell-cum-Data Centre (WCDC) headed by the Collector cum Mission Leader will look into inter departmental coordination, convergence, approval of Detailed Project Reports (DPRs) etc.

Watershed Association (WA) will be the association of all target beneficiaries at the Micro Watershed level. It will be registered as a Society under the Registration of Societies Act, 1860. Watershed Committee, the executive body of the WA will be responsible for implementation of envisaged activities and will coordinate with line departments and other resource agencies. The Watershed Committees / Gram Panchayats will be supported and incentivised for demonstrated leadership in the field of convergence with other

development programmes and facilitating operations & maintenance (O & M) of project assets. DSC & WD is finalizing a Program Manual (PM) that will be the operational document for the programme. The PM will have the operational details of the project including governance, procurement plan, capacity building, institutional staffing plan and detailed implementation processes.

The program will encourage multi-stakeholder participation and continue to partner with State and Central organizations, and other agencies involved in research, development and management of natural resources in the State. National Bureau of Soil Science & Land Use Planning (NBSS&LUP), Kolkata and Odisha University of Agriculture & Technology, Bhubaneswar will take up LRI activities as well as Hydrological studies in collaboration with Indian Institute of Technology(IIT), Bhubaneswar. Odisha Space Applications Centre (ORSAC) will provide required cadastral maps and imageries. Indian Institute of Water Management, Bhubaneswar will take up Hydrology studies at pilot demonstration micro watersheds. In this regard, contracts will be entered directly with the technical partners based on the technical and financial proposals submitted and negotiated with them. Entrustment of the project activities/works to the Government Universities and Government owned Institutions/Corporations shall be done in terms of Para.11(iii) of F.D.O.M No FIN-Code-Rule-1/2018-37323/F, dated the 30th November, 2018.

The program will put in place a strengthened Management Information System (MIS) for monitoring timeline and quality of project implementation, operation & management (O & M) and outcomes. An impact evaluation with baseline, mid-term and end-term studies will be undertaken by hiring an Impact Evaluation Agency. A comprehensive Monitoring & Evaluation Plan which focuses on the PDO indicators and the Intermediate Results Indicators is being developed.

4.2. Project Expenditure & Financing: The World Bank Support will be IBRD loan to the State and the State has the obligation to repay 100% of the loan. 50 million USD from the World Bank and USD 20 million from the State will be utilized over a period of six years. The total outlay of the project is Rs 500/- crores i.e., State share of Rs. 150/- Crores and the World Bank loan of Rs 350 Crores. Rs. 500 crores based on a 70:30 World Bank: State cost sharing.

Expected Disbursement schedule of World Bank fund (Unit: USD million)

FY 1	FY 2	FY 3	FY 4	FY 5	FY 6	Total
5	8	9	9.25	9.75	9	50

An Independent Verification Agency (IVA) will be hired to verify the progress of Disbursement Linked Indicators [DLIs] and provide feedback on a periodical interval. Disbursement request applications will be submitted to the Bank for work completed and verified by the IVAs as per the agreed upon DLI. Once it is fully satisfied with the evidence of Program achievements, the Bank will authorize disbursement of the appropriate amount of funding. The State will also adopt Public Financial Management System (PFMS) and appropriate audit arrangements.

ORDER

Ordered that the notification be published in the Extraordinary issue of *Odisha gazette*.

By Order of the Governor
SAURABH GARG
Principal Secretary to Government