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## 1.0 Introduction

DRCSC, Kolkata has been sanctioned a grant of **USD 9,119,240** from the Adaptation Fund through NABARD, NIE in India for implementation of the project **“ENHANCING ADAPTIVE CAPACITY AND INCREASING RESILIENCE OF SMALL AND MARGINAL FARMERS IN PURULIA AND BANKURA DISTRICTS OF WEST BENGAL”** over a duration of four years.

The project has been designed to provide an integrated solution to manage expected climate change risks and uncertainties in the red and lateritic soil zones under two districts of West Bengal. The components constitute a series of interlinked activities, which ultimately leads to enhance community's participation in the climate sensitive natural resource management plan and carrying out actions according to that. It will be supported by modern methods of GIS appraisal, local weather based crop advisory services and already practiced improved models. The community will also be assisted to share the learning outcomes with the larger communities. Models developed as part of the project will have the scope of getting upscaled in red and lateritic zones of the country through advocacy with appropriate authorities in the government at state and central levels for inclusion in state and national policies.

As a process, the entire project envisages a paradigm shift of existing top-down large scale planning process to a bottom-up planning and action with support from benefits of science and technology.

The Inception/Launching Workshop was held on the 28<sup>th</sup> May 2015 at Conference Hall, Chhatna Block Development Office, Chhatna, Bankura, West Bengal. The project was officially launched there by Smt. Munmun Sen, Member of Parliament, Bankura District, West Bengal in presence of Sri Arup Chakraborty, Sabhadhipati, Sri Vijay Bharti, District Magistrate, Bankura, Sri R. Amalorpavanathan, Dy Managing Director, NABARD, Head Office, Mumbai, Smt. T.S. Raji Gain, CGM, West Bengal RO, Kolkata and other dignitaries.

This workshop is the first activity under this project and serves to assist the Stakeholders to understand and take ownership of the project's goals and objectives, as well as discuss the project's work plans, activities, risks and the proposed monitoring and evaluation plan.

This Report documents the proceedings and outcomes of the workshop.

## 2.0 Background and project summary

India is facing the challenges of sustainable production in agriculture sector due to impact of climate change. The small and marginal farming community which accounts for 85% of the total farming community are the most vulnerable towards the impact of climate change. This project aims at promoting climate resilient agriculture among the small and marginal farmers of Red lateritic zone of West Bengal.

### **National and State Action Plan on Climate Change**

Govt of India launched 8 National Missions under National Action Plan on Climate Change (NAPCC) which focuses on multi-pronged, long term and integrated strategies for achieving key goals in the context of climate change.

National Mission for Sustainable Agriculture, one of the Mission under NAPCC emphasizes to identify and develop new varieties of crops and especially thermal resistant crops and alternative cropping patterns, adoption of Integrated Pest and Disease Management practices, enhancing soil fertility by application of organic sources of nutrients etc.

As per the West Bengal State Action Plan on Climate Change, the impact of climate change on agriculture sector will be as follows.

- Productivity of temperature-sensitive crops, especially Rabi crops will be decreasing
- Water scarcity will be increasing
- Incidences of pests and diseases, weeds will be increasing
- Reduction in soil fertility
- Incidence of crop failure will be increasing
- Length of growing season of Pre-kharif and Kharif crops will be increasing at the cost of Rabi season

Adaptation Fund Board (AFB) approved the project “***Developing climate resilient livelihood systems for rural farmers in West Bengal***” prepared by Development Research Communication and Services Centre as Executing Entity and submitted by NABARD in its capacity as National Implementing Entity (NIE). AFB has sanctioned 13.88 crore towards implementation of the project.

## 2.1 Project objective

The **overall Project Objective** is: “Developing climate adaptive and resilient livelihood systems through diversification, technology adoption and natural resource management for small and marginal farmers associated with agriculture and allied sector in the Red and Lateritic Zone of West Bengal.”

The anticipated **project key results/outcomes** would be

1. Communities adopt land and water use master plans with the help of Panchayats through better understanding of climate change related impacts
2. Farmers are better prepared for climate resilient agriculture and wastelands development
3. Livelihoods have become less vulnerable to climate change and achieve higher levels of productivity
4. Various types of materials on processes and techniques are published and measures are taken to upscale the interventions to improve climate resilience in the red and lateritic zone

The participatory approach of the project will ensure the ownership of the project by the community, which is expected to ensure the sustainability. The project proposes a livelihood-based approach to adaptation, developing asset / capital base of individual / community in a participatory model. Four types of capital base will be created i.e. human capital, natural capital, physical capital and financial capital. The human capital will be formed through developing adaptive knowledge and skill base of farmers whereas physical capital will be in shape of water harvesting structures, micro irrigation facilities, integrated farming model, home gardens etc. The natural capital will be the scientific basis for drawing up the GP wise plan. This will positively impact the financial capital of the farmer households. All these will lead to improvement in the adaptive capacity, both at household and community level. Combined impact of these components will ensure sustainability of the outcome in the long run.

### 3.0 Agenda and Participants

NABARD, the NIE and DRCSC, the Executing Entity organised the launching/inception workshop which was held on Thursday, 28<sup>th</sup> May 2015 at Chhatna Panchayat Samity Hall, Bankura, West Bengal. About 300 participants participated from various professional fields, which included representatives from stakeholder departments, universities, Non-Governmental Organization, meteorological services, and the target Communities from Purulia and Bankura.

An outline of the programme is attached as **Annex 1**. A list of participants is attached as **Annex 2**.

### 4.0 Goals & Objectives

The objective of organising the Workshop was to enable the various stakeholders to have a better understanding of the project “**ENHANCING ADAPTIVE CAPACITY AND INCREASING RESILIENCE OF SMALL AND MARGINAL FARMERS IN PURULIA AND BANKURA DISTRICTS**”

**OF WEST BENGAL”** as well as to get their advice and suggestions and to highlight their roles in effective implementation of the project.

The specific objectives were the following:

- Create awareness among workshop participants on the threats of climate change on the drought prone region and the need to adapt and increase climate resilience of communities and livelihoods.
- Describe the project components and responsibilities of various stakeholders
- Get endorsement from the workshop participants on the project’s objectives, implementation modalities and responsibilities for execution & maintenance of the outputs, implementation plan as well as the project’s logical framework (risks, assumptions, and indicators) and reporting obligations.

### 5.0 Local stakeholder consultation

The morning session (from 11am to 1.30pm) was the session for local stakeholders consultation.

Mr. Surja Kanta Das from DRCSO welcomed all the participants, the participants from various Government Departments of Bankura and Purulia, honorable guests from Panchayats of Bankura and Purulia, representatives of NABARD Regional Office & Head Office, the target communities and staff members of DRCSO to the first Stakeholders consultation at Bankura.

Sri Subhash Mahato, the villager volunteer of DRCSO started the workshop with a traditional folk song in local tribal language (Santhali) to welcome all the participants again.

Sri Surja Das then invited the speakers on the stage. Dr. Nandini Ghosh , Assistant General Manager NABARD, Mumbai; Dr. Debabrata Das, General Manager NABARD, RO, Kolkata; Smt. Sutapa Naskar, BDO Chhatna Block, Bankura; Mrs. Somjita Chakraborty, Secretary DRCSO ; Mr. Sujit Kumar Mitra, Project Manager DRCSO were invited.

In the opening session, Dr. Debabrata Das, General Manager of NABARD briefly presented the purpose of the stakeholder consultation. He said the main purpose of this stakeholder consultation would be to share the proposed activities of the project and to consider the suggestions and feedbacks of the stakeholders for finalizing the activities. He also explained about the different steps that were taken to formulate the project. He reminded about the stakeholders consultations, different focused group discussions, vulnerability mapping etc and happily announced that the project was ultimately sanctioned by AFB. Dr. Das also deliberated about the role of NABARD as the National Implementing Entity and DRCSO as the Executing Entity.

He reiterated that this is going to be the first project in India which would be executed by DRCSC in 40 villages of Kashipur and Chhatna blocks with about 5000 beneficiary families. He once again explained how climate change is affecting the daily livelihoods of the communities and how the concerted effort will help to adapt to such changes.

He concluded his speech by thanking all, present in the meeting hall and wished the best implementation at all levels.

Mr. Amal Ghosal , Joint BDO of Chhatna Bankura thanked all the participants and especially thanked small and marginal farmers who had come to attend the launching workshop braving that extreme heat. He welcomed the initiative of NABARD and DRCSC for the area and ensured all possible cooperation from their end to achieve the project objectives.

Ms. Somjita Chakraborty, Secretary, DRCSC was invited to explain the work DRCSC has done so far. Ms. Chakraborty welcomed all the participants and presented DRCSC's activities, achievements so far, strategies of working, organisational structure, mission, vision etc.

She explained her gratitude to all the community people, DRCSC staff members and the Government officials who have contributed to get the project sanctioned after 2 years of sincere hard work. She expressed her happiness that West Bengal had the distinction of launching the first project funded by AF in India and articulated her keenness to see it implemented successfully.

Ms. Sutapa Naskar, BDO Chhatna Block Unnayan Adhikarik felt proud that the villages of Chhatna and Kashipur Blocks have been chosen for implementation of such a potentially effective project. She was very keen to understand more about the project activities and the strategies. She was also interested to know the budgetary allocation district wise. She ensured her support as and when needed during these 4 years.

The Project Manager, Mr. Sujit Kumar Mitra, DRCSC presented the project in detail. He explained about the participatory vulnerability capacity assessments which were done with the communities, the panchayat members etc, the findings of which helped to formulate the project activities. He explained the specific objectives and the components of the project which have been detailed below:

### **Specific Objectives**

To enhance adaptive capacity of **5,000 vulnerable farm families** in semi-arid regions of Purulia and Bankura districts of West Bengal by introducing measures to **adapt to the adverse impacts of climate change on their food and livelihood security.**

### **Component 1: Land & Water Use Master Plan (LUMP & WUMP)**

This Component proposes drawing of Land Use Plan and Water Use Master Plan considering the Geo-informatics appraisal, community perspective (PVCA report) and climate data analysis.

Climate Change is envisaged to exacerbate the water stress in the western arid districts of Bankura & Purulia of West Bengal. In order to assess the vulnerability and the project activity impact with respect to water availability in this region, a holistic research involving **Geo-informatics Appraisal** and micro level planning in a GIS platform is necessary. This would be useful in developing a “Spatial Decision Support System” to reduce the risk to the vulnerable population and to assist in climate change adaptation in the proposed area and to check the efficacy of the planned activities.

### **Component 2. Reducing climate risks through timely and appropriate weather specific crop/agro-advisory services in local language (Bengali)**

Apart from extreme weather and climate events such as severe droughts, subtle changes like rainfall variability and temperature variations often shock the farming community, particularly in red and lateritic soil zones, leading to decline in agricultural production. In addition, farmers are expected to manage the more insidious effects of long term climate change that may now be occurring at an unprecedented rate. These existing pressures demand the development and implementation of appropriate methods to address issues of vulnerability to weather and climate. Timely Crop-Weather Advisories will assist farmers to develop their adaptive capacity further that will help them to make improved planning and better management decisions. Awareness of targeted farmer groups will be increased by adapting a participatory and cross-disciplinary approach to deliver climate and weather information.

#### **Broad Spectrum of Crop-Weather Advisories**

1. Sowing/ transplanting of monsoon crops based on onset of monsoon
2. Sowing of winter crops using residual soil moisture
3. Fertilizer application based on wind condition
4. Delay in fertilizer application based on intensity of rain
5. Prediction of occurrence of pest and disease based on weather
6. Prophylactic measures at appropriate time to eradicate pest and diseases
7. Weeding/Thinning at regular interval for better growth and development of crop
8. Irrigation at critical stage of the crop
9. Quantum and timing of irrigation using meteorological threshold
10. Advisories for timely harvest of crops

### **Component 3: Climate resilient technology transfer for enhancing the adaptive capacity of the community**

Capitalizing on Component 1 that generates the land and water use plans, Component 3 focuses on transferring the sustainable technologies to the community for increasing their adaptive capacity. In accordance to the plan,

- a) **Sustainable soil and water conservation measures** will be taken up with the utmost community participation in order to achieve sustainable management in the long run.
- b) The community will be assisted in **diversifying their livelihood activities** away from only climate sensitive practices such as rain-fed agricultural production. The production system will be diversified by integrating various subsystems (crop, tree, aquatic flora-fauna, livestock) so that the produce is distributed over various seasons and space to make the system become more resilient.
- c) **Disaster Coping Mechanisms** will be introduced to make the community more prepared to handle the climatic exposures.
- d) Introduction of **climate appropriate technologies** will lead to increased resilience at household and community level.

### **Component 4: Learning and Knowledge Management**

Technical documents along with economic analysis will be produced on the successful interventions made as part of the project for sharing with development agencies particularly those working in the red and lateritic soil zones, scientific communities particularly those engaged in researches on climate change interventions, local level policy-makers and govt. authorities at village, block, district, state and national levels. Policy Brief will be produced for advocating the models developed through the project to state and national governments for adoption in state and national policies.

Access to learning outcomes in the targeted villages as well as in public domain will be ensured through a dedicated website, printed materials (case studies, reports, scientific papers) and farmer meets. Mass awareness programs e.g. rallies, village fairs, graffiti, programs in schools and village camps will be organized and 5 short films will be produced in local language for creating awareness among illiterate or neo-literate community living in the project area.

The strategies to implement the project was elaborately discussed with all the stakeholders, the budget allocation and the result framework were also shared.

The Programme Manager announced that a District level Sub-Committee has been formed with District Collectors, district level officials from the department of Agriculture; DRDC, Cooperative Banks, Line departments, Panchayat, DDM and the Project Manager. Consent of all the officials mentioned was taken earlier. Their specific role in the project will be to

- Facilitate project implementation at the district level
- Facilitate coordination between different departments for the smooth implementation of activities at the project level
- Monitor the project activities and assess the benefit accruing to the project beneficiary
- Provide guidance and direction to the project for the implementation of project
- Assess the usefulness of climate adaptive strategies for the region

He concluded his speech by thanking all the members of the committee and the participants who were present in the workshop.

Dr. Nandini Ghosh, Assistant General Manager of NABARD Head Office, wished all the best to the stakeholders and the community representatives for the start of the project. She appreciated the effort of all which had been put forward to get the sanction of the project. She explained that West Bengal would be the first state to implement such a project and all the people would be looking forward to the achievements, results, successes, failures etc. Therefore she said the documentation should be a vital part of the project and very concerted attention should be there to document every minute details at all levels. She urged the beneficiaries to take a little more responsibility of documenting the steps taken so that rest of the world can learn from the project. She also requested DRCS to organise proper dissemination of the results and learning at all levels. She also said that the Steering Committee members along with other stakeholders would be able to showcase the learning at various sectors which can even influence some future policies.

Dr. Ghosh also said that in case of any difficulty each stakeholder can immediately be in contact with DRCS and NABARD. She also explained about the reporting structure of the project and in order to do that she underscored the importance of documentation.

After her valuable comments, Smt. Chakraborty, Secretary of DRCS invited questions from the participants and an open house discussion ensued.

The consultation ended with a Vote of Thanks.

## 5.0 Launching Programme

In the 2<sup>nd</sup> half of the day (2 pm to 4 pm) the Launching Programme was organised by NABARD and DRCSC at the same venue.

### **Unveiling of Foundation Stone**

Smt. Moon Moon Sen, Hon'ble MP, Bankura in the presence of honorable dignitaries, guests and stakeholders unveiled the Foundation Stone of the project **"ENHANCING ADAPTIVE CAPACITY AND INCREASING RESILIENCE OF SMALL AND MARGINAL FARMERS IN PURULIA AND BANKURA DISTRICTS OF WEST BENGAL"**.

### **Second session of the day**

#### **Welcome by Smt T.S. Raji Gain, CGM, West Bengal RO, Kolkata**

**Smt T.S. Raji Gain, CGM, West Bengal RO, Kolkata** greeted the Member of Parliament, Sabhadhipati, District Magistrate Bankura, Additional District Magistrate Purulia, all the officials of Govt, NABARD, ADM Purulia and stakeholders of the project and welcomed all to the launching programme. She told that the Climate Change Adaptation Fund Project has been sanctioned for 40 villages of Bankura and Purulia in West Bengal.

The project was sanctioned to reduce and overcome impacts of climate change on rural livelihoods where the entire farming community including the landless farmers are the worst sufferers.

The global organization Adaptation Fund Board has sanctioned the fund for increasing the adaptive capacities of farmers so that they can reduce and cope with the climate risks.

She said that soil & water conservation is one of the major components of the project which will help to prevent soil erosion and recharge the ground water level. Plantation will also help to slow down the speed of rainfall on the ground, which will further prevent the soil erosion.

Weather station is another major component of the project as it will provide the important information on weather behaviour and moreover the advisories based on that.

Various coping strategies have also been designed in the project like community seed banks, grain banks, fodder banks etc as risk mitigation activity.

The project will be implemented by DRCSC. She requested other NGOs to include some components of project in their work so that climate change adaptation activities may spread across the area. She also requested government line departments, Panchayat members, other stakeholders to support this project for better implementation. She concluded her speech by giving her best wishes to all stakeholders and with the hope to achieve the best.

### **Remarks by Shri Vijay Bharti, District Magistrate, Bankura**

Shri Vijay Bharti, District Magistrate, Bankura greeted all the participants and said that when he was given the responsibility of DM, he felt that there was lack of convergence among all the departments of government. He felt very bad about working in isolation. From several literatures and meeting the Programme Manager and DRCSC people he came to know about the detailed activities of the project and he was very happy to see the design of convergences in the project document.

He hoped that proper facilitation to converge several components will definitely bring some positive change in the lives and livelihood of the community. Farmers know very well about their surroundings, weather behaviour, but they forget the crops suited to their agro-climatic zone and practice mono crop based agriculture, but this project will surely help them to know the low cost agriculture practice.

### **Release of Project Brochure**

The Brochure of the project **“ENHANCING ADAPTIVE CAPACITY AND INCREASING RESILIENCE OF SMALL AND MARGINAL FARMERS IN PURULIA AND BANKURA DISTRICTS OF WEST BENGAL”** was released by Hon’ble MP Smt. Moon Moon Sen, Smt. T.S. Raji Gain, CGM, West Bengal RO, Kolkata, Shri R. Amalorpavanathan, Dy Managing Director, NABARD, Head Office, Mumbai, Shri Vijay Bharti, District Magistrate, Bankura.

### **Address by Shri R. Amalorpavanathan, Dy Managing Director, NABARD, Head Office, Mumbai**

Shri R. Amalorpavanathan, Dy Managing Director, NABARD, Head Office, Mumbai said that in India NABARD is the only agency who got accreditation from the Adaptation Fund Board. It is a great achievement for our country’s democratic tradition. NABARD submitted 5 projects out of which 2 projects got sanctioned. This is the first project in India that is being launched.

He felt that this project would be an example for the rest of the world. It takes NABARD and India one step forward. He said that NABARD or DRCSC will not introduce new things. Farmers have traditions of organic and natural farming but today their problems are aggravated by the phenomena of climate change. He cautioned that we need to take the right step today for our next generation to live in a better world.

The responsibility of damaging the environment may rest somewhere outside this region but for that the whole world suffers and the vulnerable community suffers the most. So, all of us together need to address the issue. There are two possible ways – one is adaptation and the other mitigation. NABARD is working with both the issues for 34 years.

He also mentioned that 30% projects of NABARD are related to climate change but those are not scientifically designed. But in recent times they have emphasised on designing the

projects more scientifically. The problems are known by villagers and solutions are also known to them, but they lack the capacity to implement the solutions. NABARD along with DRCSC will be doing that.

The solutions will not be imported from somewhere else, those are always with the community. The need is to consolidate those. With all the best wishes he concluded his remarks.

**Address by Shri Arup Chakraborty, Sabhadhipati ,Bankura Zila Parishad ,Bankura**

Shri Arup Chakraborty, Sabhadhipati, Zila Parishad, Bankura said that it is a very good news to the farmers of Bankura and Purulia that NABARD along with DRCSC is working for them so that the farmers can do farming at less cost and less water use by which they can increase their production. He welcomed this initiative whole heartedly.

He hoped that all people living in the area will be benefited from this 4-year project to reduce climate stress. He addressed all the staffs of NABARD Mumbai, Kolkata, Panchayat members to assure that he will extend all support for better implementation of project. He also requested all the officials of NABARD, Panchayat members to monitor this project activity for proper use of funds. He ensured if all things went well, the project would be a grand success.

**Sri Sabuj Baran Sarkar**, ADM (General), Bankura said that all support will be given to DRCSC for the project. He said that he had accepted the responsibility to monitor the project as farmers are related with this. Farmers have to learn and follow all the techniques for their livelihood development.

**Smt. Sutapa Naskar**, BDO, Chhatna Block welcomed Smt. Moon Moon Sen, Hon'ble MP, Bankura and all dignitaries present and hoped that farmers would be really benefited from this project, but for that she expressed the need to monitor all the activities of the project.

**Smt. Moon Moon Sen, Hon'ble MP, Bankura** blessed DRCSC. She said she was proud that such a global fund could be accessed for farmers of Bankura and Purulia. She appreciated DRCSC as an NGO for their work. She told that farmers are the worst sufferers and in many cases they are pushed to commit suicide under compelling situations. We cannot assign any reason for this situation in our country. If the farmers adopt proper techniques of low cost sustainable farming by optimum utilization of resources they will definitely survive. She reiterated that she feels proud to inaugurate the project.

**Vote of thanks**

**Smt. Diti Mukherjee, President, DRCSC** thanked all the participants and honorable guests with special mention of Smt. Moon Moon Sen, Hon'ble MP, Bankura, Smt T.S. Raji Gain, CGM, West Bengal RO, Kolkata, Shri Vijay Bharti, District Magistrate, Bankura, Shri Arup Chakraborty, Sabhadhipati , Bankura Zila Parishad, Shri R. Amalorpavanathan, Dy.

Managing Director, NABARD, Head Office, Mumbai, Sri Sabuj Baran Sarkar, ADM (General), Bankura, Smt. Sutapa Naskar, BDO, Chhatna Block, Kolkata and also appreciated all members of staff of DRCSC. She gave a special thanks to farmers and hoped that DRCSC would get all possible support from the line departments of the government.

#### **6.0 Exhibition and Live Demonstration**

Some of the beneficiaries of DRCSC set up several stalls in the open space in front of the hall to demonstrate models of soil & water conservation, integrated farming etc. All the dignitaries and the communities present could get a glimpse of the activities which will be implemented under the scope of the project. 211 varieties of traditional paddy seeds, more than 10 varieties of drought resistant crops and vegetable seeds were displayed to exhibit the wide range of bio-variety present in the area.

**Annex 1**

**NABARD West Bengal Regional Office, Kolkata  
Development Research Communication and Services Centre, Kasba, Kolkata**

**Launching Programme of Climate Change Adaptation Project on 'Enhancing Adaptive  
Capacity and Increasing Resilience of Small and Marginal Farmers in Bankura and Purulia  
Districts of West Bengal'**

28 May 2015

Conference Hall, Chhatna Block Development Office, Chhatna

**Tentative Programme Schedule**

<b>Time</b>	<b>Programme Schedule</b>
11.00 AM – 01.00 PM	Stakeholders Workshop on the Climate Change Adaptation Project
01.00 PM – 02.00 PM	Lunch
02.00 PM	Launching Programme
02.00 PM – 02.10 PM	Welcome by Smt T.S. Raji Gain, CGM, West Bengal RO, Kolkata
02.10 PM – 02.25 PM	Introductory remarks by Shri Vijay Bharti, District Magistrate, Bankura
02.25 PM – 02.35 PM	Unveiling of Foundation Stone and Release of Pamphlet on Climate Change Adaptation Project
02.35 PM to 02.50 PM	Address by Shri Arup Chakraborty, Sabhadhipati, BankuraZilaParishad, Bankura
02.50 PM – 03.10 PM	Address by Dr. PradipMajumdar, Advisor (Agriculture) to Hon'ble Chief Minister, Govt of West Bengal
03.10 PM – 03.30 PM	Address by Shri R. Amalorpavanathan, Dy Managing Director, NABARD, Head Office
03.30 PM – 03.50 PM	Address by Smt Moon Moon Sen, Hon'ble MP, Bankura
03.50 PM – 04.00 PM	Vote of thanks by Director, DRCSC

## Annex 2

Participants' List (attached as separate PDF file)

## Annex 3

### Photographs



