



ADAPTATION FUND



Report on

FARMERS CONVENTION on Climate Change Adaptation

24th – 25th June 2016

Swagat Hall

Purulia, West Bengal

A collaborative experience sharing assemblage on enhancing adaptive capacity and increasing resilience of small and marginal farmers in West Bengal bringing together **296 Small and Marginal Farmers** and **203** representatives from **Policy, Academia, and CSOs**

Re-emerging **World**
Strategic Advisory Services

Knowledge Partner

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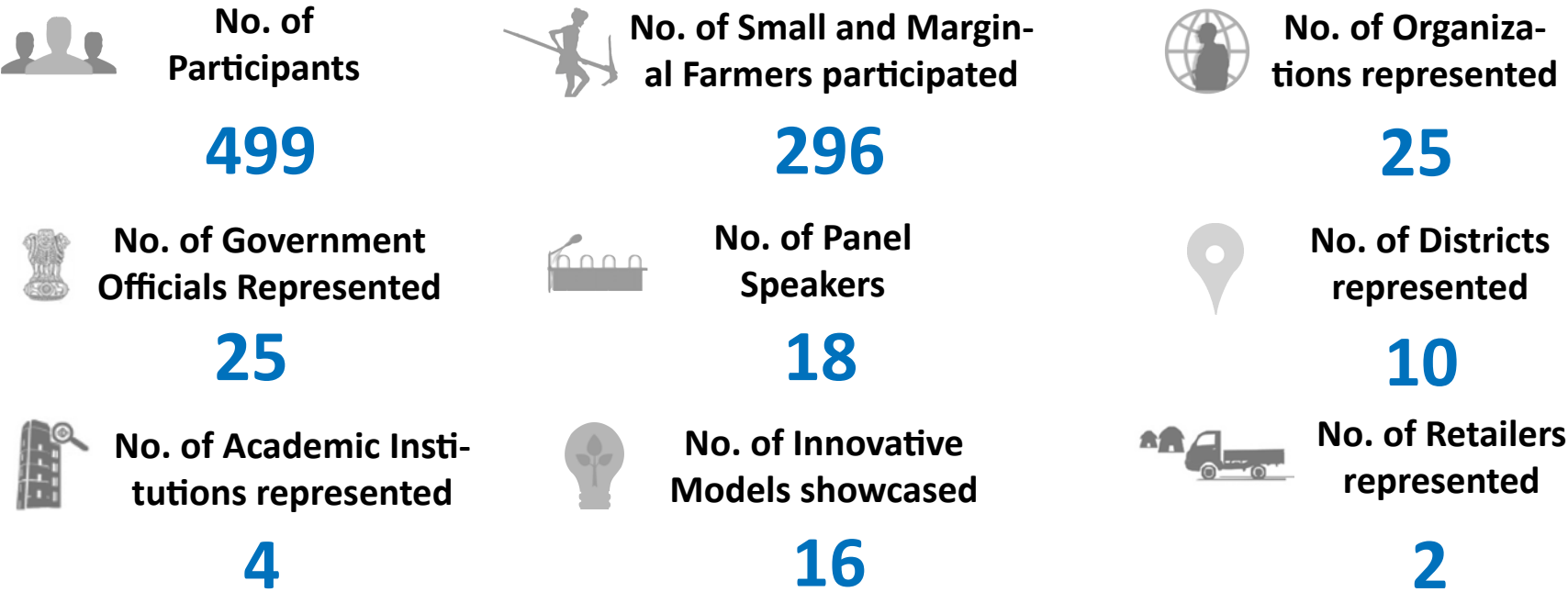
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Convention at a Glance

By Experience Sharing Sessions



By Numbers



About Climate Change Adaptation Project

In the recent times, climate change is becoming more real and tangible, adversely affecting people's lives and livelihoods. For the poor and marginalized communities, climate change acts as a 'risk multiplier' letting them more vulnerable to economic, social, political and environmental distresses.

In West Bengal, an eastern state of India, 70% of the total population, are directly dependent on climate sensitive sectors such as agriculture, animal husbandry and horticulture, etc. for their daily livelihoods. Around 95% of the state's farming population belong to the small and marginal farming community, which further intensifies the associated risk and vulnerability to climate change.

The project **"Enhancing adaptive capacity and increasing resilience of small and marginal farmers in Purulia and Bankura Districts of West Bengal"** is a 4-year project funded by the Adaptation Fund with National Bank for Rural Development (NABARD) as the National Implementation Entity and Development Communications and Research Centre (DRCSC) as the Executing Entity.

The project aims at developing climate adaptive and resilient livelihood systems through diversification, technology adoption and natural resource management for small and marginal farmers in red and lateritic zone of West Bengal in semi-arid regions of Purulia and Bankura District.

Key Components of the Project



- 1** Land & Water use master plan using GIS technologies



- 2** Climate risks reduction through timely & appropriate early warning in local language



- 3** Climate resilient technology transfer for enhancing the adaptive capacity of the community



- 4** Learning and Knowledge Management



Villages in Purulia and Bankura District

40



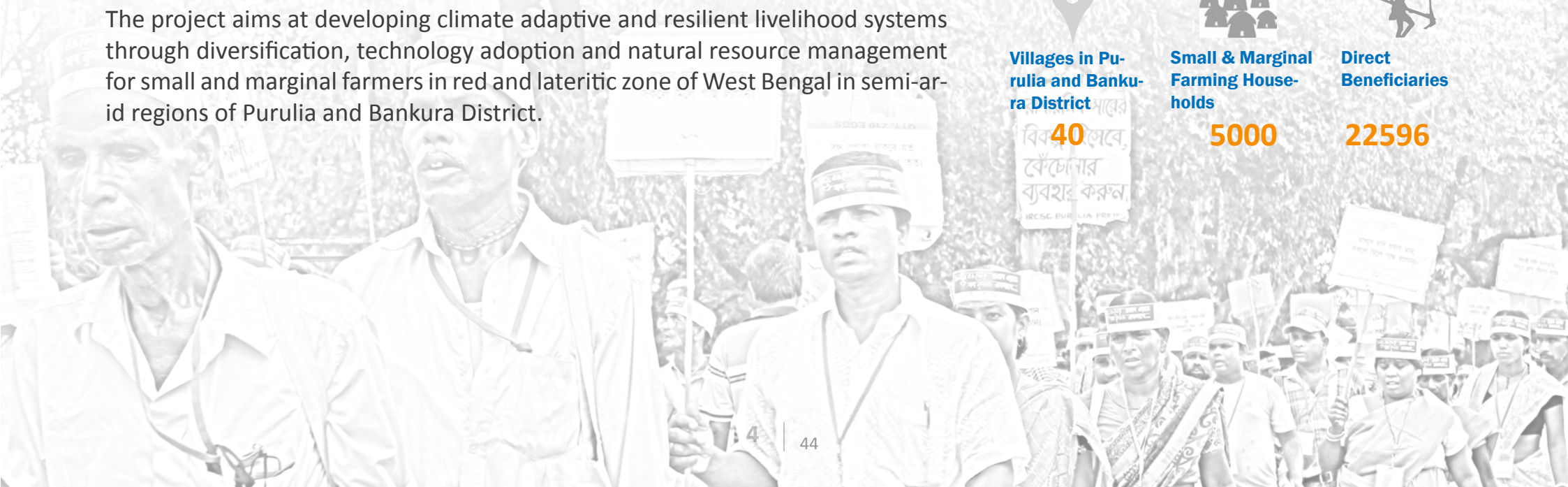
Small & Marginal Farming Households

5000



Direct Beneficiaries

22596



Farmers Rally

The climate change awareness rally led by a group of 200 resource farmers at the starting of two day's sessions, to empower local population with the knowledge of climate change, was the first highlight of the convention.



Inaugural Session

FARMERS CONVENTION

24-25th June, 2016

Swagat Hall | Kashipur, Purulia, West Bengal



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Message from West Bengal's Agriculture Minister in Charge

Shri Purunendu Bose, Honourable Minister in Charge, Agriculture, West Bengal, graced the second day of the Farmers' Convention with his esteemed presence and presented awards to select progressive small and marginal farmers from Purulia and Bankura Districts.

In his address, Shri Purunendu Bose, highlighted the extreme importance of mainstreaming climate change adaptation strategies to empower the small and marginal farmers who are at highest risk of vulnerability.

He stressed the need of massive **dissemination and adoption of standard Good Agricultural Practices (GAP) which needs to be comprehensively integrated with local knowledge and practices**. Given the increased frequency, uncertainty and variability of climatic shocks in West Bengal in the past years, he highlighted the significance of taking an **experiment-learning and a -scaling up approach of developing climate resilient livelihood** systems by the state's small and marginal farmers.

Shri Purunendu Bose, asked the farmers to recognize the potential value of the natural resource which they possess and leverage these resources in all feasible ways. He demanded the progressive farmers practising organic agricultural practices to take up the responsibility **of transferring their knowledge, best practices and innovations to the larger small and marginal farming community** of the state, who still are dependent on mono-cropping and chemical intensive agricultural practices.

Finally, Shri Purunendu Bose stressed on **creating an enabling and collaborative environment between Government, Non-Government Organizations and other stakeholders** so that the impact of these interventions can be scaled up and reached to larger masses within shorter period of time.



“ In West Bengal, only 1% of farmers practice organic farming. We need to rapidly scale up interventions like these, as majority of our farmers are deprived of agricultural best practices, knowledge and innovations. ”

Shri Purunendu Bose, Honourable MIC, Agriculture, West Bengal

Inaugural messages from NABARD Leadership

Guest of Honour



Among the various projects implemented by NABARD, this project is one of best functioning and is geared for potential results. We are aiming at enhancing the productivity, diversification, technology adoption, mitigation approaches, natural resource management and farm to market linkages and product marketing among the small and marginal farmers through this intervention.

**Shri B.K. Naik, General Manager,
Farm Sector Policy Department,
Mumbai Headquarters, NABARD**

“ Through our collaborated efforts, we will enhance the enhance the resilience and adaptive capacities of the small and marginal farmers. ”

Chief Guest



In our journey towards climate mitigation, farmers are a very important stakeholders and we need to assess how empowered they are to respond to climate change vulnerabilities. The climate change adaptation project is a step towards empowering the farmers with climate resilient livelihood systems. Once proven, these models can be adopted at multi-regional level to enable the small and marginal farmers to flourish and grow.

**Shri A.K. Raybarman, General Manager,
Regional Office, NABARD**

“ Given the exposure to climate change vulnerabilities, the farmers are not fully equipped with additional knowledge and expertise, this is what the climate change adaptation project will bring about. ”

Opening Plenary Day 1: Key Message from speakers



One of the key achievement of this intervention is it has resulted in a decline in rural-urban migration of small and marginal farmers from the project districts. The farmers are now getting empowered with information and advisory services for decision making at each level of farm production. Through this intervention, which is being first implemented under the Adaptation Fund Board, we aspire to scale up our proven models of sustainable and climate resilient agriculture among the small and marginal farmers. However, the model cannot sustain in an isolated manner but it requires an ecosystem building approach and active participation from Government, Research and other stakeholders.

Shri Sujit Kumar Mitra

Project Manager, Climate Change Adaptation Project

Development Research Communications and Service Centre (DRCSC)



The approach to climate change should include initiatives where we can precisely assess the reasons which are contributing to climatic shocks at a regional level and then take necessary measures to mitigate them. The choice of right crops, animals, farm inputs, farm techniques are very important at the farmer's household level which when taken right at an aggregated level can significantly empower the marginalized farming communities.

Dr J. Prasad

Central Sericulture Officer

Opening Plenary Day 2: Key Message from speakers



A greater participatory approach is required at the local level policy making to empower the small and marginal farmers of our country. All the actors from government, academia, CSOs should work in tandem to render an enabling environment which allows the farmers to take up and practice sustainable agriculture.

Shri Soumen Belthoria, Sabhapati

Kashipur Panchayat Samity, Purulia



We require more events like these which provide a great connecting platform for all stakeholders to interact with the farmers and vice versa.

Dr. Paritosh Bhattacharya

Director of Agriculture, Government of West Bengal



We should aim at creating a balanced production scenario where farmers are able to eliminate food deficit in their households and sell surplus at the right prices.

Shri Subhasish Batabyal

Social Activist & Agriculture Expert

Session on Weather Prediction and Crop Advisory Services

India's small and marginal farmers have very limited or no access to timely weather information specific to their local conditions, which constrains their decision making abilities regarding farm production. The climate change adaptation project aims at reducing climate risks through timely and appropriate agro-advisory services in local language (Bengali) to the small and marginal farmers in Purulia and Bankura districts of West Bengal.

In this backdrop, Shri Sujit Kumar Mitra, Project Manager, comprehensively presented the weather prediction and crop advisory model being implemented and how the model is augmenting the decision making capabilities of the farmers.

- **A first of kind technology enabled model to collect local weather data and disseminate timely information to the farmers:** Leveraging the technology mix of 6 Automated Weather Stations (AWS) and 12 Manual Weather Stations (MDS) setup in 40 locations, local weather data is sent to the Meteorological experts for forecasts with reference to the Indian Meteorological Department and Global Weather Data. These forecast results are used by the agricultural experts to prepare crop advisories which are shared through SMS (in Bengali) to farmers.
- **Dissemination of location specific and crop specific farm level advisory services through a network of youth volunteers:** A network of 40 climate change youth volunteers stationed in the target villages are disseminating crop advisories to all farmers through display boards and group meetings.
- **Empowerment of farmers through enhancing their awareness and decision making abilities:** The program empowers farmers with contextual information about weather and crop advisories which in turn enables them to minimize inputs cost and maximize production. Sujit Mitra presented three case studies to establish the implementation of this objective.



“We request the government to take up initiatives for scaling up the 5 day weather predictor system and crop advisory services in Bengali (local language) at each block of West Bengal.”

Shri Sujit Kumar Mitra

Project Manager, Climate Change Adaptation Project

Development Research Communications and Service Centre (DRCSC)

Certificate and Award Distribution to Innovative and Progressive Farmers



Reflections from a Progressive Small and Marginal Farmer



Name: Surendra Chandra Biswas

Location: Jashodanga, Alipur Duar, West Bengal

Since the age of 12, Surendra Chandra Biswas, had been practicing traditional mono-cropping farming practices in his inherited 5 bighas of agricultural land. After getting introduced and trained in organic agriculture practices, Shri Biswas gradually and completely shifted into bio integrated farming practices. Experiencing tangible benefits from it, in terms of enhanced agricultural productivity and cash earnings, Shri Biswas now completely practices sustainable and organic farming practices in his farmland.

Now, not only he is working as model organic farmer but also as Community Resource Person to disseminate sustainable and organic agricultural practices to fellow farmers in his community. As an acknowledgement of his pioneering efforts, in 2014, Shri Biswas was awarded the “Udaan Ratna” from the Honourable Chief Minister of West Bengal.

He aspires to take the organic farming revolution ahead by involving the larger farming community through a word of mouth marketing. In addition, he wishes to continue his sustainable agricultural practices with greater protection and conservation of traditional seeds.



The collage consists of 15 photographs arranged in a grid-like fashion, showcasing various activities and displays at the 10th National Horticulture Fair. The images include:

- Top left: A group of people, including men in white shirts and a woman in a yellow sari, engaged in conversation.
- Top center: A large crowd of people walking through a fairground under a blue tent.
- Top right: A stall with a blue banner that reads "চাষক সু-স্বাদু ও গারাক" (Farmers, sweet and garak) and "মুখি করার লক্ষ্যে প্রচার শৈল" (Promotional style for the purpose of making it popular). The banner also lists "সবজি-পেঁপেয়া-মেসুরা" (Vegetables-peppercorn-mesura), "আলু-ইউরু" (Potato-urdu), "শসা-বিড়লা" (Cucumber-birdla), and "মুখুয়া গীতায়-আতিথ্য কেন্দ্র" (Mukhya Gitaay-Atithya Kendra).
- Middle left: A stall with a red and white striped tablecloth displaying various food items, including small bowls of fruit and vegetables.
- Middle center: A group of men, including one in a green shirt and another in a white shirt, looking at a display.
- Middle right: A green and blue mechanical device, possibly a pump or a small engine, mounted on a metal frame.
- Bottom left: A stall with a red and white striped tablecloth displaying various food items, including small bowls of fruit and vegetables.
- Bottom center: A group of men, including one in a white shirt and another in a yellow shirt, looking at a display.
- Bottom right: A stall with a red and white striped tablecloth displaying various food items, including small bowls of fruit and vegetables.
- Far right: A stall with a blue banner that reads "Amader Manbhum" (Our Manbhum) and "আমাদের মনোভূমি" (Our Manobhumi).
- Far bottom left: A display of various plants and vegetables in a field.
- Far bottom center: A display of various plants and vegetables in a field.
- Far bottom right: A display of various plants and vegetables in a field.

Climate Change Impacts on Environment and Livelihoods

Shri Ardhendu Sekhar Chatterjee, Founder and Secretary, DRCSC, outlined his view points on how climate change can have serious impact on the availability of various natural resources particularly water, and how this in turn can render adverse consequences on small and marginal farmers' livelihoods.

He noted that in India, more than 60% of the crops are rain-fed, making it highly vulnerable to climate induced changes in precipitation patterns. Given the fact, that a majority of Indian farmers still practice chemical intensive mono cropping agricultural practices, they are ill equipped to respond and design effective mitigation strategies to climate change. He repositioned the importance of groundwater for the farming households for various purposes ranging from irrigation to drinking given the unpredictable nature of monsoons.

He stressed among the various agro-climatic zones in India, the arid and semi-arid zones of West Bengal are most vulnerable to climatic shocks and hence the farmers of this region are in a dire need to build resilience through climate smart agriculture practices.

In light of solutions, Shri Ardhendu Sekhar, highlighted the combination of local knowledge, traditional practices, and scientific research and policy actions to equip the farming community to design and implement livelihood systems which are much more resilient to climate changes. He called for a participatory action research approach for the documentation and dissemination of local best practices and traditional knowledge among the small and marginal farmers. He concluded by stressing that a collective decision making and implementation at all levels and by all actors concerned holds the key to mitigate climate change.



“ You should not restrict the best practices to yourselves...document them and pass on to the larger farmer community. ”

Shri Ardhendu Sekhar Chatterjee, Founder and Secretary, DRCSC

GP Level Micro Planning based on GIS Mapping

Shri Subhojit Ghosh and Shri Parimal Mandal, from School of Oceanographic Studies, Jadavpur University, shared their insights and experiential reflections on how they have been working with DRCSC and NABARD to develop a robust Geographical Information System (GIS) mapping technique in the arid regions of Kahsipur block, Purulia and Chhatna Block, Bankura Division of West Bengal.

Shri Subhojit Ghosh, opened the session by informing the how they have been using GIS enabled satellite imagery to prepare thematic land use maps which presents a trend of land use in agricultural, human inhabitation and drought prone lands in the region over a period of 10-15 years. To cross-validate and find gaps, in the satellite imagery of land use maps compared to actual use of land resources, local community are involved through Participatory Rural Appraisal (PRA) method. The underlying objective is to identify what are the changes that have taken place in land use and analyse the extent of these changes over the years. In addition, the mapping is done at a micro scale so that more precise and reliable information is received and analysed for land use mapping.

The intervention approach also includes trend analysis of climate data including the intensity and frequency of drought, humidity and rainfall in the region. The land use and climate related data and information from the automated weather stations is being used to identify and map land resources where rainwater water can be naturally stored. In addition, the time series climate and rainfall data is analysed with previous agricultural production volumes and crops grown to predict the agricultural production volumes and nature of crops to be grown in the future.

The data driven GIS model will be key to empower the farmers about the knowledge of future climatic shocks and build their resilient capacities.



“ We are developing a data driven GIS model which can accurately predict future climatic shocks at a local context and also empower the farmers to take necessary preventive measures. ”

Shri Subhojit Ghosh, School of Oceanographic Studies, Jadavpur University



Experience Sharing Session 1

Local Traditional Seed Production & Conservation



Expert Presentation:



Expert : Dr Prabir Bhattacharyya, BCKV, Nadia

Panel Discussion:

Moderator:



Dr Anupam Pal

Farmers:



1. Shri Narayan Chandra Bachhar, North 24 Paraganas
2. Shri Amit Bera, Purva Midnapore
3. Shri Sashadhar Giri, Purva Midnapore
4. Shri Sukhdev Mondal, South 24 Paraganas

Session Background

With the onslaught of Green revolution, and with the advent of genetically modified High Yielding Variety (HYV) seeds, traditional seed culture practices are gradually dying out in India. Unlike the traditional seeds, the HYV seeds are less adaptive to local climatic conditions and hence making farm systems more vulnerable to climate changes.

In this context, traditional seed production and conservation is a pioneering way to practice sustainable agriculture. Given their natural integration with the local climatic conditions, traditional varieties of seeds are much more resilient to withstand the rigors of climate change and its harsh side effects.

Key takeaways from Expert Presentation

Dr Prabir Bhattacharyya, from Bidhan Chandra Krishi Viswa Vidyalaya, Nadia, brought out the distinct causes of deterioration of the seed quality and also presented the best practices associated with the storage of traditional variety of seeds.

- **Principal causes of seed quality deterioration:** Genetic purity of seeds is deteriorated due to a number of factors during production cycles. This includes natural crossing with undesirable seeds, developmental variations, use of seeds in self-pollinated crops, mutations, unclean harvesting environment, cross fertilized crops, etc.
- **Best Practices linked with storage of seeds:** One of the best practice is to determine the period between seed delivery and plantation by the framers; seeds should not be left in bags for extended period of time.
- **Focus on creating a diversified base of traditional seeds:** Farmers should diligently focus on enhancing the diversity base of traditional varieties of seeds.
- **The need of proper marketing of traditional seeds:** The farmers should take the responsibility of marketing of traditional variety of seeds among their peers as this practice can ensure a greater acceptance of traditional seeds by the larger farming community.



Expert's perspective



“ *Seeds are vehicle of genetic innovation and the first component of the food chain. If seeds are not true to its life, then they are not good.* ”

Dr Prabir Bhattacharyya, Bidhan Chandra Krishi Viswa Vidyalaya, Nadia

Key Perspectives presented in Panel Discussion



Expert's perspective



There are more than 82,000 varieties of folk rice varieties in India and over 5,500 varieties in West Bengal. But they remain uncharacterized and there is no effort to bring them to the knowledge and access of the larger farming community.

Dr Anupam Pal, Assistant Director of Agriculture, Agriculture Training Centre, Nadia



Farmer's perspective



We have been practising paddy cultivation using a local traditional seed (dhudeshwar), for over 100 years, and this has variety of seed has successfully been able to withstand the impact of Cyclone Alia in our region.

Shri Sukhev Mondal, Patharpratima, South 24 Paraganas

Key takeaways from session

The session brought out free-flowing and insightful dialogue between the experts and farmers of Bankura and Purulia on their knowledge, experience, concerns, future commitments for traditional seed production and conservation.

- **The Right Art of traditional seed production and conservation:** The expert presentation brought out key do's and don'ts related to traditional seed conservation and production by the farmers
- **Use of organic farm inputs is a must complement along with traditional seeds to build the resilience of livelihood systems:** The farmers' experiences brought out that along with traditional seed conservation practices, usage of organic inputs in the cultivation purpose is of extreme significance to build the sustainability and resilience of farm systems.
- **Impact on the quality of food produced and consumed from traditional seeds:** In addition to traditional seeds role in climate change mitigation strategies, the indigenous varieties allows for the farmers to grow and consume food of high nutritional value.



Experience Sharing Session 2

Soil and Water Conservation

Swagat Hall | Kashipur, Purulia, West Bengal



Expert and Moderator:



Expert : Shri A.S. Chatterjee, DRCSC

Panel Discussion:

Farmers:



1. Shri Kalichand Murmu, Purulia
2. Shri Swapan Choudhuri, Bankura
3. Shrimati Ramani Hembram, Purulia
4. Shri Jaharlal Murmu, Purulia

Session Background

It is widely acknowledged fact that Soil Erosion is the greatest single evil to Indian Agriculture. Soil is the most precious asset particularly for the farmers and a productive soil can ensure prosperous agriculture based livelihoods. In addition to soil, successful agriculture practices also depend on quality and quantity of water.

Fertile soil and clean water serves as renewable natural resources and when managed properly by the farmers can also become renewable resources in context of agricultural production.

Key takeaways from Expert Presentation

Shri Ardhendu Sekhar Chatterjee, Founder and Secretary, DRCSC, presented his expert view points on soil conservation techniques and water management practices which can help espouse the farm's productivity and profitability as well as develop its resilient capacities to climatic shocks.

- **Selection and plantation of right choice of indigenous trees:** Trees which are suited to local agro-climatic conditions of a region can play a key role in soil and water conservation. For example, in semi-arid and arid regions of Purulia and Bankura, trees such as Arjun (*Terminalia Arjuna*) and Babul (*Vachellia Nilotica*) can help in restoring the soil and water contents of the local ecosystem.
- **Hydrological insights on soil conservation practices:** To minimize the runoffs and soil erosion due to storms and rain-falls, the slope angles of crop land should be kept between 30 to 40 degrees, which can also help in water conservation.
- **The importance of rain water harvesting:** Rain water harvesting is a key accepted technique for water conservation and storage, and when practiced diligently by all small and marginal farming households, it can effectively address the water challenges of the region.



Expert's perspective



“ The moisture content of the soil is depleting due to overall increase in temperature. To combat this, we should plant as many varieties of plants which can naturally help in improving the fertility of soil and moisture retention. ”

Shri Ardhendu Sekhar Chatterjee, Founder and Secretary, DRCSC

Key Perspectives presented in Panel Discussion



Farmer's perspective



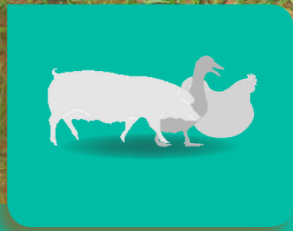
We should promote the increased use of local variety crops which require less of water and also help in maintaining the fertility of the soil.

Shrimati Ramani Hembram, Purulia

Key takeaways from session

The session brought out the challenges faced by the farmers in the dry and semi-arid belts of Purulia and Bankura in the context of deteriorating soil quality and reducing water tables. And as well, the steps which can be taken to promote soil and water conservation.

- **Increase in the usage of water resources and decline in the soil productivity for cultivation:** The farmers participating in the discussion shared the same concern that on one hand the requirement of water for cultivation has been increasing, on the other hand the soil productivity is declining.
- **Fencing of land with plants for abating soil erosion and loss of moisture content:** Fencing of the agricultural land with small plants can play a key role in abating soil erosion as well as in preventing the loss of moisture from soil.
- **Leveraging the combination of traditional practices and scientific advancement to restore the balance of soil and water resources:** The session brought out that combining the traditional practices with scientific research can lead to better soil and water conservation.



Experience Sharing Session 3

Improvement of Small Animal and Bird



Expert Presentation:



Expert : Dr. Manas Bhattacharyya, KVK, Kalyan, Purulia

Panel Discussion:

Moderator:



Dr Debasish Mukherjee,
BLDO, Kashipur
Block, Purulia,

Farmers:



1. Shri Bankim Murmu, Paschim Medinipur
2. Shrimati Ramani Baske, Bankura
3. Shri Sasadhar Hembram, Bankura
4. Shri Surendra Chandra Biswas, Alipurduar
5. Shri Joydev Soren, Purulia

Session Background

Today, for India's small and marginal farmers owning 138 million land-holdings, livestock are by far the most important household capital assets. Livestock particularly in form of small animals and birds holds great potential to incrementally and rapidly add economic value to the overall farming system, and already in many parts of the world mixed crop-livestock systems are the norm.

However, for India's small and marginal farmers, small animal and birds are seen strictly kept more from a cultural and subsistence perspective rather than a commercial sub-system of the farm unit.

The session on small animals and birds was organized to highlight the fact that at the intersection of agriculture and climate change; their exist a prominent role of small animals and birds in the lives of small holders and how these farm animals can spearhead the mitigation strategies at a micro as well a macro level.

Key takeaways from Expert Presentation

Dr Manas Bhattacharya, from Krishi Vigyan Kendra (KVK), Kalyan, Purulia, introduced the session audience to the significance of small animals and bird rearing on a commercial basis and shared few of the best practices and technical expertise on small animals and bird rearing.

- **Presently animal rearing is a ‘non-farm priority’ and ‘women led’ practice:** Small animals and birds are often neglected component of the farming systems, and their management is mostly taken by women who lack the resource to take adequate care of them.
- **The importance of becoming ‘small-animal smart farmers’:** Small animals and birds should be seen as an asset with requiring low investment and delivering high returns in a very small period of time.
- **Think Globally and Act Locally:** It is important to choose local varieties of animals as they are more accustomed to climatic conditions and hence will fit better in the mitigation strategies at a local level.
- **Best practices linked to animal rearing:** A combination of Head-Hand-Heart is required to take proper care of the farm animals. The requirement of water for them is not extensive.



Expert's perspective



“ For you to transform from a Farmer to Agripreneur, you need to rear small animals and birds at a commercial level. Livestock will provide you with 2 to 3 times returns of your investment on them within 1-2 years. ”

Dr Manas Bhattacharya, KVK, Purulia

Key Perspectives presented in Panel Discussion



Expert's perspective



Small animals and birds have a natural resilient capacity towards climate change. The focus should be on their right selection, depending on your individual farm resources. And once, you have included in the farm system you can gradually increase their numbers.

Dr. Debashish Mukherjee, Block Level Development Officer, Kashipur Block, Purulia



Farmer's perspective



Since two years, we started with backyard poultry, now we are getting eggs every day and earning between INR 10,000 – INR 12,000 per year.

Shri Bankim Murmu, Paschim Medinipur

Key takeaways from session

The session brought out free-flowing interaction between the experts and farmers of Bankura on their experiential reflections and insights on small animals and birds rearing.

- **Small Animals and birds have a significant role in climate resilient livelihood systems:** Both the categories of participants; farmers as well as farm experts, agreed in unison that the small animals and birds have a key role to play in climate resilient livelihood systems.
- **Selection of local variety and adding small numbers to start with:** Given the general economic conditions of farmers, they should start with small number of livestock, and once they start receiving cash returns, they can increase their numbers.
- **Following animal rearing as a commercial practice:** The definitive shift of rearing animals from a traditional practice to a commercial practice among the small and marginal farmers is of urgent need.



Experience Sharing Session 4

Integrated Farming Systems



Expert Presentation:



Expert : Shri A.S. Chatterjee, DRCSC

Study Findings:



Shri Avik Roy, Re-emerging World

Panel Discussion:

Moderator:



**Shri
AnshumanDas**

Farmers:



1. Shri Jharna Ghorui, Bagnan, Howrah
2. Shri Dibas Sardar, Hingalganje, North 24 Paraganas
3. Shri Sanjay Das, Birbhum
4. Shri Seikh Hasibur Rahman, Birbhum

Session Background

Indian agriculture is characterized by the over-whelming presence of marginal (having less than 1 hectare of operational land holding) and small (having greater than 1 and less than 5 hectare of operational land holding) farmers.

Entangled in declining farm productivity, high input cost of fertilizers, price risk and degrading soil quality and high exposure to the climatic shocks, the small and marginal farming community finds it difficult to generate enough farm produce to meet their family basic nutritional's needs leave aside any incremental farm cash income.

In this background, Bio Integrated Farming Models are emerging as a core solution to unlock the potential productivity of small land holdings and make the farm system more resilient to climatic shocks through an efficient natural integration and optimization of limited available resources.

Key takeaways from Expert Presentation

While, Shri Ardhendu Sekhar Chatterjee, Founder and Secretary, DRCSC, shared his expertise on Integrated Farming System (IFS) best practices, Shri Avik Roy, Managing Director, Re-emerging World, shared the study findings on economic viability and investment case analysis of Integrated Farming Systems.

- **IFS is a dynamic combination of traditional knowledge, practices and modern technology:** By design, IFS models build on the traditional knowledge, local agricultural practices and advanced technology to empower the small and marginal farmers with climate resilient and sustainable livelihood systems.
- **Multiple Sub-Systems is a core feature:** For IFS models to be successful, diversification is an indispensable attribute. The presence of various sub-systems including pond, livestock, vermicompost, agricultural field, biogas make the farm system independent of external inputs and ensures multiple sources of farm production and income generation.
- **The strong economic case of IFS models:** Shift from chemical intensive mono-cropping practices to organic IFS practices not only ensures nutritional and food security for the small and marginal farmers but also leads to 2 to 3 times increase in cash income from sale of marketable surplus.



Expert's perspective



“Integrated Farming Systems is a pioneering model to economically empower India's small and marginal farming community.”

**Shri Avik Roy, Managing Director,
Re-emerging World**

Key Perspectives presented in Panel Discussion



Moderator's perspective



Forests are the most important natural resources which can significantly improve the local natural ecosystem as well serve as a source of food, fodder and firewood for the larger village community.

Shri Anshuman Das



Farmer's perspective



Through DRCSC intervention, we have been able to transform waste land lying idle in our village into a food forest which now serves as a collective community asset.

Shri Seikh Hasibur Rahman, Birbhum

Key takeaways from session

During the session, the farmers were in charge of sharing their experiential insights of participating in community managed and led livelihood systems.

- **The need of introducing and scaling community managed Integrated Farming Systems:** Given the potential benefits of IFS models in empowering livelihoods and developing climate resilient livelihood systems, they should be scaled up in practice from an individual farming household level to a community level where farmers can practice it on shared resources.
- **Linking organic farm produce to markets:** In order to leverage the maximum potential of Bio integrated farming models, linkages should be established between farmers and the end market.
- **Group Based Natural resource management as means to create shared prosperity and resilience:** For many of small and marginal farmers, for whom the individual land holding size is exceedingly less to meet their basic needs, they should participate in management and development of common property resources



Experience Sharing Session 5

Marketing of Self-Help Group Products



Expert Presentation:



Expert : Dr. Udhaybhanu Ray, Bio Diverse Farming

Panel Discussion:

Moderator:



Shri Arup Rakshit

Farmers:



1. Shri Asamanjan Barman, Ali-purduar
2. Shrimati Ramani Baske, Bankura
3. Shri Deep Basu, Purulia

Session Background

For decades, agriculture has mainly been associated with activities linked to farm production. However, in the current scenario, processing, promotion, marketing and distribution of agro-products is also integrally linked with agriculture. For farmers who are engaged in the production of organic farm products, to receive the right price for their product, they need to package, brand and market their product well.

In this context, what are the current challenges that are constraining the marketing practices and what best practices can be adopted by the small and marginal farming community, to ensure that the market are receiving their products well and at the right prices are important question to answer. The session brought out insights on these issues.

Key takeaways from Expert Presentation

Dr Udaybhanu Ray, opened the session by his presenting his viewpoints on the strategic need of marketing of SHG products and shared with the audience best practices linked with efficient marketing of SHG Products.

- **Understand the local demand for products through a market survey:** A first preliminary step for efficient marketing is to survey the market and understand its various facets-including which are the products in high demand, potential customer segments, and how to reach them.
- **Current Challenges in marketing of SHG products:** The marketing systems for linking farmer organic product to the market is way underdeveloped. The demand for organic products at village cluster is still low, and the supply chains from the farm gate to the end market is long and weak. As a result, the cash generated from the sale of products takes extended period of time to reach the farmers.



Facilitator's Perspective



“ We have created our local umbrella brand Vasundhra for marketing of all SHG products. ”

Shri Deep Basu, DRCSC

Key Perspectives presented in Panel Discussion



Expert's perspective



In West Bengal, we all consume a lot of imported food products. So, there is no question of whether the market exists or not? We need to just design and implement the right marketing strategies.

Shri Arup Rakshit, Bish Mukto Haat



Farmer's perspective



I have been able to sell my SHG products in different markets including in Kolkata.

Shrimati Ramani Baske, Bankura

Key takeaways from session

The session brought out free-flowing and insightful dialogue between the experts and farmers on the need of marketing of SHG products as well as best practices linked to marketing of SHG products.

- **Packaging, Branding and Marketing through Word of Mouth is extremely important in context of SHG Products:** In case of organic products straight from farm, proper packaging, branding and word of mouth marketing is a key to unlock the market demand.
- **Linking Rural to Urban:** Beyond local rural markets, farmers should increasingly focus on how to establish linkages and make their products commercially available in the urban markets.
- **Entrepreneurial attitude is a key differentiating factor:** Farmers need to develop the entrepreneurial spirit, to be able to successfully bring their products to rural and urban markets.

DRCSC Team in Action



FARMERS CONVENTION: Cultural Session in Pictures



Two day session agenda of the program

Day 1 (24th June 2016) Agenda

9:00 am - 10.00 am	Registration	
10.00 am - 10.30 am	Inaugural session	
	Lighting lamp – Dr. B. G. Mukhopadhyay , CGM H/O NABARD, Mumbai, ADM(G) Purulia along with one farmer & one gardener, Exhibition inauguration – A k Ray Barman , GM R/O, Kolkata	
10.30 am - 10.45 am	Welcome Address / Key note address	
	A.S.Chatterjee / Somjita Chakraborty	
10.45 am - 11.00 am	Session for Department of Environment , Government of West Bengal	
	Deepanjana	
11.00 am - 11.30 am	Climate Change Impacts on Environment & Livelihoods	
	Ardhendu Sekhar Chatterjee	
11.30 am - 11.40 am	Session for Chief guest (CGM , H/O NABARD)	
	Dr. B. G. Mukhopadhyay	
11.40 am - 11. 45 am	Findings of inaugural session	
	Dipak Ghosh	
11.45 am - 12.00 noon	Tea break	
12.00 noon - 1.30 pm	Experience Sharing Session on Local Traditional Seed Production & Conservation	
12.00 noon - 12.15 pm Hall GP Level Micro Planning based on GIS Mapping Prof. Sugata Hazra , Oceanography Dept. , JU	12.15 noon - 12.40 pm Local Traditional Seed Production & Conservation Dr. Prabir Bhattacharyya, BCKV	12.40 noon - 12.15 pm Panel discussion Dr. Anupam Pal, moderator (5-6 farmers from all agro climatic zone) and 3 representatives from group based seed bank
1.30 pm - 2.30 pm	Lunch Break	

2.30 pm - 4.00 pm	Experience Sharing Session on Soil & Water Conservation
2.30 pm - 3.00 pm Hall Expert Presentation on Soil & Water Conservation A. S. Chatterjee, DRCSC	3.00 pm - 4.00 pm Panel discussion Samarendranath Karmakar ,DDA(SC), KRVP, Purulia District , moderator with 5 representatives from group
2.30 pm - 4.00 pm	Experience Sharing Session on Improvement of small animal & bird
2.30 pm - 3.00 pm Dais Expert Presentation on Improvement of small animal & bird Dr. Manas Mukherjee, KVK, Kalyan, Purulia	3.00 pm - 4.00 pm Panel discussion Dr. xxxxx, BLDO, Kashipur Block, Purulia, Moderator with
4.00 pm - 4.15 pm	Tea break 
4.15 pm - 4.45 pm	Sharing session on the 4 topics discussed & Consolidation Mr Samiran Adhikary , Session Moderator, with 4 moderator of panel discussion
5.00 pm	Exhibition open for all
6.00 pm – 10.00 pm	Cultural Programme Baul, Puppet show, Kabi gaan

Day 2 (25th June 2016) Agenda

9:00 am - 10.00 am		Registration	
10.00 am - 10.20 am		Inaugural session	
		Chief Guest Shri Purnendu Bose, Hon'ble MIC, Agriculture, Govt. of WB and others guest	
10.20 am - 10.45 am		Weather Prediction and Crop Advisory Services	
		Birsha Munda Hall	
		Shri Kailash Pandey, Climate Expert, along with some beneficiaries	
10.45 am - 12.15 pmExperience Sharing Session on Integrated Farming Systems			
10.45 am - 11.00 am	11.00 am - 11.15 am	11.15 am - 11.45 am	11.45 am - 12.15 pm
Birsha Munda Hall			
Expert Presentation on Integrated Farming Systems (IFS)	Study findings of Integrated Farming Systems	Panel Discussion on Integrated Farming Systems	Panel discussion on group based asset creation on Private Land or common land
Shri A.S. Chatterjee, DRCSC	Shri Avik Roy, Re-emerging World	Shri Anshuman Das, Moderator with 6-7 IFS farmers from all agro climatic zones	Shri A.S. Chatterjee, Moderator with 5 representatives from community based farming
10.45 am - 12.15 pmExperience Sharing Session on Marketing of SHG Products			
10.45 am - 11.15 pm	11.15 am - 12.15 pm		
Sidhu Kanu Mancha			
Expert Presentation on Marketing of SHG Products	Panel Discussion on Marketing of SHG Products		
Shri Udaybhanu Ray, Bio diverse Farming	Shri Arup Rakshit with SHG / ARTC representatives		
12.15 pm - 12.45 pm		Certificate & Award Distribution to Innovative & Progressive Farmers	
		Birsha Munda Hall	
		MIC, Agriculture, NABARD Official & others VIP Guest	
12.45 pm - 1.00 pm		Address by Director, Department of Agriculture, Govt of West Bengal	
		Dr. Paritosh Bhattacharya	
1.00 pm - 1.05 pm		Address by NABARD Official, Mumbai	
		Shri B. Naik. GM. NABARD. Head Office. Mumbai	

1.05 pm - 1.10 pm		Address by NABARD Official, West Bengal	
		Shri A.K. Raybarman, GM, NABARD, West Bengal RO	
1.10 pm - 1.30 pm		Address by Honorable MIC , Agriculture, Govt of West Bengal	
		Shri Purnendu Bose	
1.30 pm - 2.30 pm		Lunch Break	
			
2.30 pm - 4.00 pm		Experience Sharing Session on Low cost appropriate technology and Alternative Energy, Climate Resilient Sustainable Agriculture Practices	
2.30 pm - 3.00 pm	3.00 pm - 4.00 pm	2.30 pm - 3.00 pm	3.00 pm - 4.00 pm
Birsha Munda Hall		Sidhu Kanu Mancha	
Expert Presentation on Low cost appropriate technology and Alternative Energy	Panel Discussion on Low cost appropriate technology and Alternative Energy	Expert Presentation on Climate Resilient Sustainable Agriculture Practices	Panel Discussion on Climate Resilient Sustainable Agriculture Practices
Shri Prashanta Mahato, IIT, Kharagpur	Moderator , with 5 beneficiaries	Shri Anshuman Das	Shri Anshuman Das, Moderator, with 67 farmers from different Agro-climate zone
4.00 pm - 4.15 pm		Tea break	
			
4.15 pm - 4.45 pm		Sharing session on the 4 topics discussed & Consolidation	
		Mr Samiran Adhikary, Session Moderator, with 4 moderators of panel discussion	
4.45 pm - 5.00 pm		Vote of thanks	
		Mr. Dipak Ghosh	
5.00 pm		Exhibition open for all	
5.30 pm – 10.00 pm		Cultural Programme	
		Santali Dance, Puppet show, Chhou Dance	

Honourable Guests

List of Participants

Name	Designation & Department	Mobile No
1 Shri Purunendu Bose	Minister in Charge, Agriculture, Government of West Bengal	
2 Shri A.K.Raybarman	GM, NABARD, Kolkata	9433094443
3 Shri B. Naik	GM, Farm Sector & Policy Office, Mumbai Head Office, NABARD	9417841020
4 Shri S.K.Jena	Manager, NABARD, WB RO, Kolkata	9903980315
5 Shri Amit Kumar Das	AGM, NABARD, WB RO, Kolkata	
6 Shri Somnath Bhattacharya	DDM, NABARD Bankura	
7 Shri Kanchan K. Bhattacharya	DDM, NABARD Purulia	9775895220
8 Dr. Rajiv Ghosh	Joint Secretary Department of Agriculture, Government of West Bengal	
9 Dr. Paritosh Bhattacharya	Director, Department of Agriculture, Government of West Bengal	

Government Officials & PRI members

Name	Designation & Department	Mobile No
10 Dr. Murari Jadhav	DDA (Admin), Department of Agriculture, Government of West Bengal	
11 Dr. Asis Bandyopadhyay	DDA (Admin), Purulia	
12 Dr. A.K.Mandal	DDA (WBP), Purulia	9339055760
13 Laxmirani Soren	Krishi Prayukti Sahayak (KPS)	9635574237
14 Anirudhha Das	Jt. BDO, Kashipur	9002867223
15 K.K.Murmu	ADF, Purulia	9475980978
16 Amiya Kr. Mondal	S.S (Sonathali GP)	9735156272
17 Shukdeb Majhi	Krishi Prayukti Sahayak (KPS)	9800496447
18 S.N.Kaimata	DDA (SC), KRVP, Purulia & Project Manager, WCDC, Purulia	9433120329
19 Abhoy Berav	Technical Expert, WCDC, Purulia	9593007639
20 Achin Kr. Kundu	BLLRO	9002532671
21 Asit Kr. Mondal	BLLRO	9732364988
22 Dr. Debasish Mukherjee	BLDO, Kashipur, Purulia	9593452166

Other guests

Name	Designation & Department	Mobile No
23 Bhabesh Ch. Mahato	PNJS, Purulia	9932307784
24 Kartik Kumbhakar	Baraurma Samaj Kalyan Samity	9932492781
25 Subhas Ch. Sahis	Baraurma Samaj Kalyan Samity	9547571967
26 Jagdish Prasad	Scientist D, Research Extension Centre, Central Silk Board, Kapistha	9475010921
27 Dr. Prabir Kr Bhattachayrya	BCKV, Nadia	9433242858
28 Uday Bhanu Roy	BDF (TONA)	9830096686
29 Anshuman Das	WHH	9051094944
30 Subhas Tudu	RDS, Bankura	8972284906
31 Gobardhan Mahato	HHPC	9647948414
32 Bikash Ch. Mahato	HHPC	9002697565
33 Gourango Dey	HHPC	8016019577
34 Dhirendranath Mondal	HHPC	8016673306
35 Sanjib Mahato	HHPC	8670800196
36 Anima Soren	RDS, Bankura	8016341371
37 Deb Kumar Su	PCI	8017514082
38 Debabrata De	HC	7278140935
39 Sekhar Ganguly	HC	9163204690
40 Anathbandhu Mahato	MMCSM	9647934986
41 Dr. Anupam Paul	ATC, Fulia, Nadia	9432356490
42 Swapan Chowdhury	CWDS/NBS	9933349289
43 Bimal Chandra Palchira	CWDS/NBS	9474997339
44 Ahalya Sardar	NBS	
45 Mati Mandi	NBS	

Name	Designation & Department	Mobile No
46 Nutan Murmu	CWDS	
47 Subhajit Ghosh	SOS, JU	9831918878
48 Parimal Mondal	SOS, JU	9143117782
49 Dr. Manas Kr. Bhattacharyya	KVK, Purulia	8798313063
50 Dinabandhu Mondal	Damodar Hatchery	9732336435
51 Saptarshi Basu	Consultant	9933742108
52 Hiranmoy Maity	Indraprastha Shrijan Welfare Society	8609819738
53 Gopal Mazumdar	Champa Mahila Society	8927282234
54 Avik Roy	Re-emerging World	9830324243
55 Arpendu Ganguly	Re-emerging World	9674795378
56 Lenus Kendall	Consultant	9073275822
57 Himanshu Dandapaty	PUS, Hatirampur	9933197279
58 Ardhendu S. Chatterjee	DRCSC	9830073241
59 Kaushik Biswas	Project Incharge, PUS & HRSS	9474100325
60 Pradip Khan	Project Incharge, PUS & HRSS	
61 Swami Yogaswarupananda	Horticulture, PUS & HRSS	9474100325
62 Sudip Mondal		
63 Krishnapada Mahato	Murlu	9732129575
64 Arup Rakshit	Bish Mukto Haat	9007526611
65 Chittaranjan Mahato	ACGP	8967228796
66 Buddheswar Banerjee	ACGP	9732215181
67 Soumen Madan	Asst. DA (SC), Kashipur Block	9733560184
68 Rohitosh Hansda	Asst. DA, Kashipur Block	9434404023



Step Pond Excavation : Fetching water for storing water

About DRCSC

Development Research Communication and Services Centre (DRCSC), a non-profit development organization, formed in 1982, is focused on Sustainable Agriculture & Natural Resource Management for improving food & livelihood security of the rural poor. The centre stands for ensuring food and livelihood security of the rural poor through sustainable management of natural resources on the basis of principles and action.

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