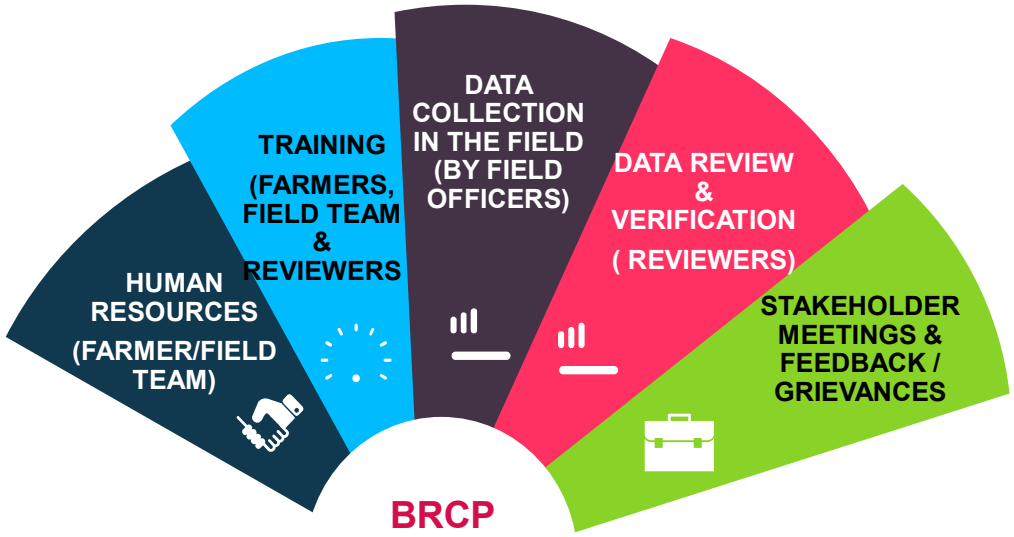
BAYER RICE CARBON FARMING PROJECT (BRCP)

Objectives of the Project

- Improve Rice Management Activities through climate-smart and resource efficient practices to benefit to the farmers and the environment
- Methane emission reduction through adjusted water management practices like Alternate Wetting & Drying (AWD)

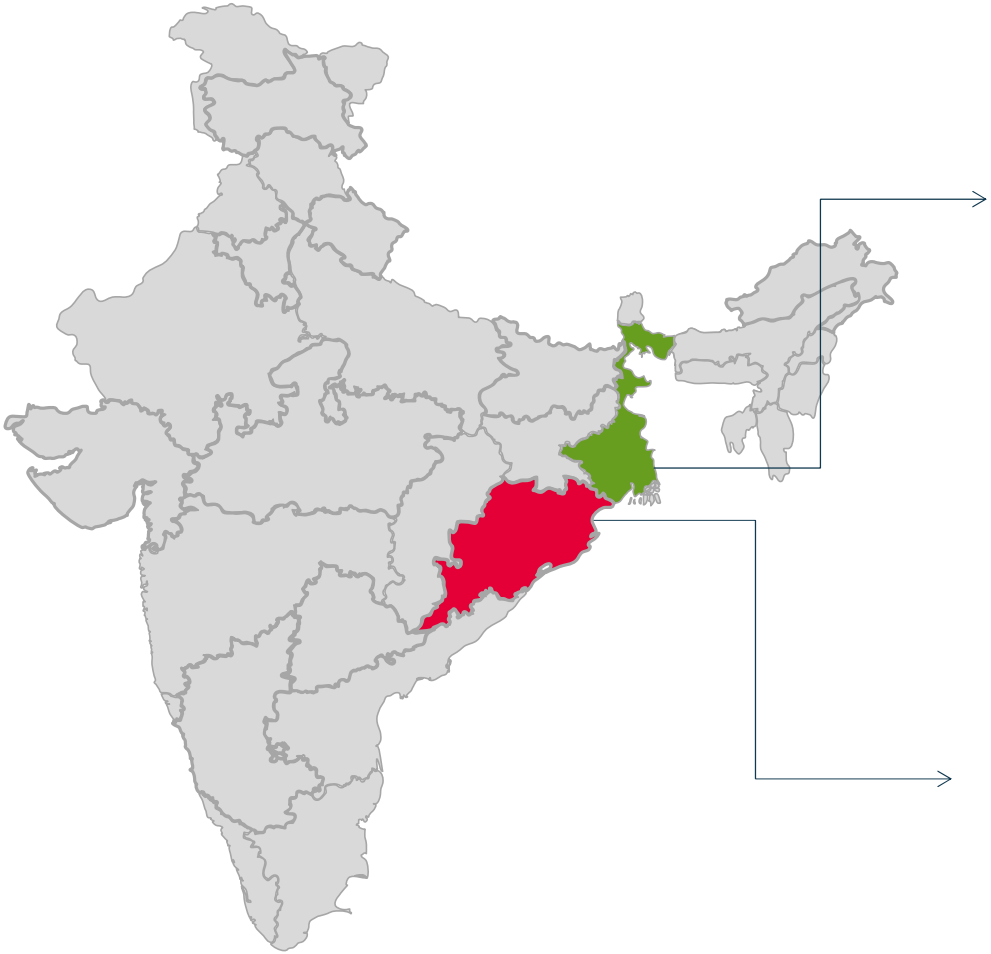


Future Recommended Practices

- Direct Seeded Rice (DSR),
- Laser Levelling etc

Overall Benefits from the Project

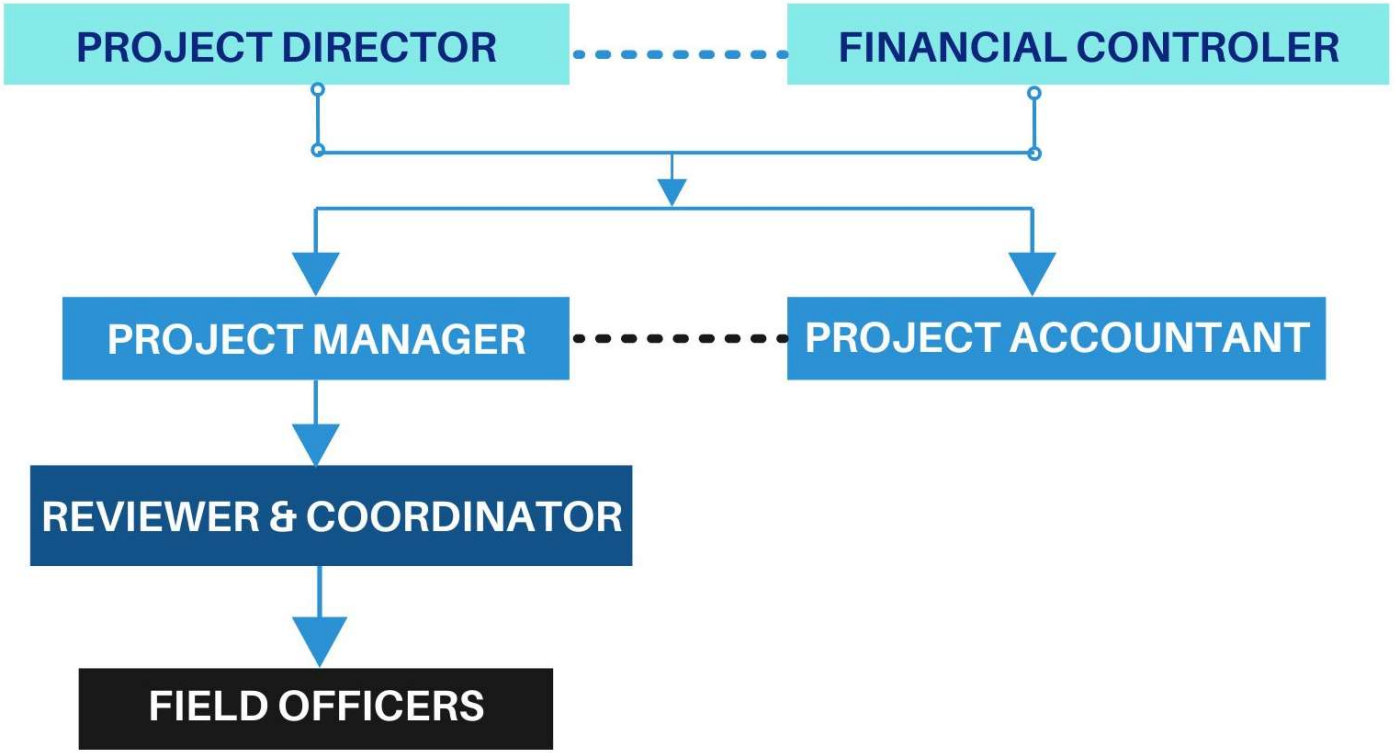
- Substantial Water Reduction for controlled irrigation
- Reduced Labor Cost
- Improved Soil Health
- Low Input Cost
- Carbon Incentives



West Bengal District	Total Hectares R-25-26	Total Farmers
Paschim Midnapore	913	2130
Purba Bardhaman	374	591
Birbhum	372	655
Coochbehar	814	1427

Odisha Districts	Total Hectares R-25-26	Total Farmers
Jagatsinghpur	1050	939
Puri	883	886
Jajpur	507	300
Cuttack	130	81

BAYER RICE CARBON FARMING PROJECT
PROJECT ORG CHART



KBC MANAGEMENT

ORG CHART

Suhas Basu
(CFO)

- Chartered Accountant
- Superannuation from a leading Nationalized Bank in India
- Internal Auditor & Financial Controller

CFO Responsibilities

1. Ensures financial stability and keeping AR & AP in control
2. Reviews risks involved with new ventures and new partners
3. Ensure IT related compliance through internal and external audit.

Anindita Biswas
(DC)

- Masters in Philosophy & Psychology
- 10+ Years experience in Social Sector and Project Management

Document Controller Responsibilities

1. Develops SOP for document collection, saving and sharing
2. Ensures all project related photos and videos as well as training documentations are saved in an organized manner
3. Ensures Farmer, Agreements and Incentives to Farmers are smoothly completed

Santanu Bid
(CDO)

- Masters in Computer Technology
- 8+ Years experience as Trainers & Project Management

CDO Responsibilities

1. Develops SOPs for data collection & data review
2. Is the bridge between KBC & TGRA Tech team on App & Data related issues
3. Reviews and ensures Quality of final data for the season

Saibal Mitra
(CEO & COO)

- Chemical Engineer
- 30+ years of experience in Oil & Gas Industry
- Business Development & Project Management in Oil & Gas Industry
- Multi-cultural, multi-national environments spanning India, Middle East & USA (15 years).

CEO Responsibilities

1. Is the bridge between TGRA Team and KBC
2. Ensures working (coordination and cooperation) of CFO, CTO, COO & CDO in a team environment
3. Decides future growth and investment trajectories

COO Responsibilities

4. Manages the day-to-day operation by ensuring adherence to SOPs by field team
5. Connects to grievances from external stakeholders and provides solutions by engaging other stakeholders
6. Takes care of the HR & HSE needs of the project

Dr. Ashok K Mohanty, Sr Consultant (Agronomy)
(CTO)

QUALIFICATIONS

1982 - 1987 :Orissa University of Agriculture and Technology, Bachelor of Science in
Agriculture (1st division), India
1989 -1989 :Diploma in Computer Programming, Computer College, Iloilo, Philippines
1989-1989 :Basic Course in Project Development organized by Govt. Of Philippines and
conducted by Asian School of Management, Manila.
1989 – 1991 :Panay State Polytechnic College, Master of Science in Agronomy and
Sociology (1st Division with 98.5%), Philippines.
2005 – 2011 :Orissa University of Agriculture and Technology, Doctor of Philosophy
(PhD) in Agronomy

PAST ASSOCIATIONS

Worked as Chief Scientist in All India Coordinated Research Project on Irrigation Water Management.
Worked as Dean, College of Agriculture, OUAT
Worked as Associate Professor in Weed Control project, OUAT, Bhubaneswar
Consultant for OXFAM-UK in developing cropping system strategies for farmers of Jajpur district, Odisha.
Worked as cropping system consultant for NR International, UK
Worked as Professor in Panay State Polytechnic College, Philippines cum United Nations Volunteer, UNDP, Manila, Philippines
Worked as Associate Director of Research (Professor Cadre), RRTTS, Chiplima, Sambalpur under OUAT

CTO Responsibilities

1. Provide Agronomy related training and guidance to the team
2. Develops Training Manuals for the Team and conducts Trainings for all stakeholders
3. Engages KVK scientists and district government agricultural team
4. Engages experts from Universities during key stakeholder consultations (entomologist, pathologists & weed scientists
etc)
5. Decides the environments "technically conducive"
for future expansion of the project

QUALITY : PROCESS DRIVEN

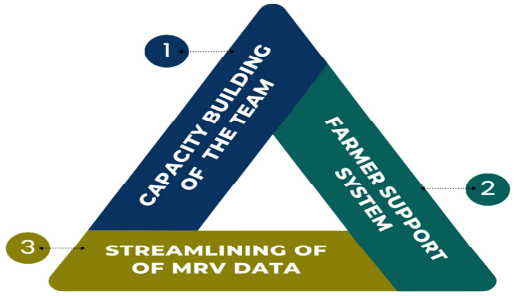
THE GOOD RICE ALLIANCE

Delivery Plan for the Entire Process (10 sub-processes)

1. Mobilization of Farmers
2. Recruitment of Field Officers
3. Training of Field Officers & Training of Reviewers
4. Onboarding of Farmers
5. Training of Farmers
6. Data Collection in The Field
7. Monitoring of Field Data by Reviewers
8. Feedback to Field Officers on discrepancies in data & Re-training
9. Stakeholder Meetings & Documentation (Farmer Feedback)
10. Carbon Credit Incentives to Farmers




QUALITY TRIANGLE



CAPACITY BUILDING OF THE TEAM

RESPONSIBILITY OF FIELD OFFICER

a. Geo-tagging of the plot after registering the farmer and plot on the App
b. Complete baseline survey of crop details and POP done in traditional cultivation practice, prior to getting engaged in Carbon Farming / Carbon Credit project.
c. Enter Rainfall data & soil moisture condition daily from transplantation to harvest
d. Enter all farm operations such as nursery seed sowing, main field preparation, transplantation, irrigation, fertilizer use, crop protection use, harvest & post harvest including costs for each activity
e. Visit each plot 3 times a month as a minimum and document the same with photos
f. Assist in inviting the farmers and organizing stakeholder meetings with farmers
g. Organize trainings for the farmers on use of AWD monitoring pipe
h. Conduct / organize small farmer group meetings on issues related to weed management, insects, fertilizers etc
i. Facilitate the signing of agreement with farmers for carbon credit incentives
j. Collect bank details of farmers for payment of incentives to them
k. Other miscellaneous tasks besides entering all crop details in the App

- Clear job description of team members
- Training of field team (FO & Reviewers)
  1. Data entry and digital technology
  2. Agronomy
  3. Project overview, HR & HSE
- 4-Sets of question and role play
- Reviewers Training (9 Weeks – Ongoing)
  1. Advanced Excel
  2. Power BI
  3. Chat GPT & Copilot
- Leadership Training by industry expert

RESPONSIBILITY OF COORDINATOR

a. Mobilize new farmers during scale-up
b. Supervise day-to-day tasks of the Fos and ensure FO(s) are following the SOP and multi-tasking
c. Resolve issues related to the farmers
d. Ensure collection of land deeds
e. Keep track of expenses (salaries / reimbursable expense back-ups / other expenses for promotion etc)
f. Assist in inviting the farmers & govt officials and organizing stakeholder meetings with farmers
g. Organize trainings for the farmers (STC/LSC/Farm Days)
h. Follow up with DBT/KBC for salary payments / incentives / reimbursable expenses etc
i. Motivate FO(s) and take care of their HR needs
j. Maintain bench strength to replace non-performing FO(s) and take care of work surges with temporary staff
k. Provide technical support to FO(s) on Agronomy as directed / guided by Dr. Mohanty Sir

RESPONSIBILITY OF REVIEWERS

a. Check data from back-end and ensure Quantity & Quality completion
b. Ensure correctness of agreement data , land deeds data, incentive data submitted
c. Check and Report incomplete Rainfall data & soil moisture condition daily from transplantation/ DSR sowing to harvest and 3 visits per month – on a weekly / monthly and end of season basis
d. Prepare invitations and document all small farmer meetings and events like STC/LSC & Farm Days
e. Prepare monitoring report & PPTs for BI-weekly Calls in Rotation
f. Monthly Review and End of Season data quality checks and comparison with baseline
g. Correct / modify previous season data as instructed by Bayer under guidance of Santanu
h. Provide technical support to FO(s) on Agronomy as directed / guided by Dr. Mohanty Sir.

TRAINING OF FIELD OFFICERS (GENERAL OVERVIEW)

1. Name of project: Good Rice Alliance
2. About Bayer Bioscience & About Krishibandhu Cropscience Pvt. Ltd.
3. Criteria for this project
4. Difference between Transplanted Rice and DSR
5. Sequence of events in a crop cycle
6. 3 stages of crop: vegetative, reproductive & ripening
7. What are GHG (greenhouse gases)?
8. What are the consequences of Global warming?
9. What is Paris convention for reduction in global warming?
10. What is carbon trading? How is carbon trading related to rice cultivation?

TRAINING OF FIELD OFFICERS (TECHNOLOGY)

1. How to attend a call on Teams or Google Meet
2. All etiquettes of online call participation)
3. Take photo with GPS coordinates
4. How to ensure location accuracy
5. How to share field photos using Google Drive & YouTube
6. Filling up for registration through Google sheets
7. Basic knowledge of Word, Excel & PPT
8. How to create pdf from word and compress a pdf

RESPONSIBILITY OF CONSULTANT AGRONOMIST

- Training of Field Officer & Farmers
- AWD Benefits and Best Practices including Criteria
- DSR Benefits including Mechanized DSR
- Seed selection & Treatment
- Fertilizer selection (dosage & timing)
- Crop Protection with emphasis on Weed Management.
- Post Harvest Best Practices
- Attend Bi-weekly meetings (twice a month)
- Engagement with local KVKs / ADA & Other Agencies (IRRI, NRRI etc):
- KVKs to attend Stakeholder Consultations for new farmers
- Engage ADA and their office
- Engage IRRI / ICAR / NRRI etc

Farmer Support System

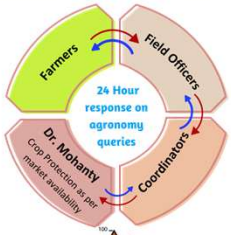
FERTILIZER MANAGEMENT

Rice Variety	Nitrogen (Kg/acre) N	Phosphorus (Kg/acre) P2O5	Potassium (Kg/acre) K2O
Local	24	12	12
High Yielding	32	16	16
Hybrid	48-60	24	24

High Yielding Varieties 32-16-16 NPK/ Acre

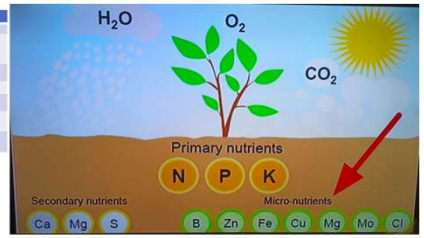
Fertilizer in Kg/Acre	Basal	Active Tillering	Panicle Initiation
DAP, 18-46 % NP	35 (6:16 N:P)	-	-
Urea, 46 % N		28.5 (13N)	28.5 (13 N)
MOP, 60% K	13 (8kg K)		13 (8kg K)
ZnSO4 (soil application) 33% Zn, 15% S	10 kg/acre		
Borax (Boron 10.5%)	4 kg/acre		

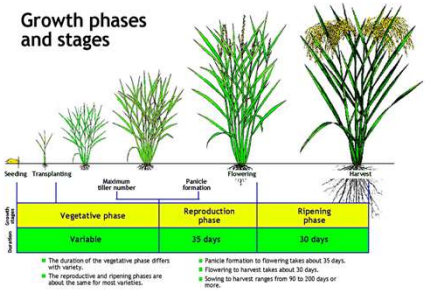
Fertilizers	Nutrients	Multiplication Factors
Urea	46 % N	2.2
Single Super Phosphate (SSP)	16 % P, 12% Sulphur & 21% Calcium	6.25
DAP	18- 46-0 NPK (0.4:1)	2.2
MOP	60% K	1.67
Gromor, Coromandel	12-32-16 NPK (0.4:1:0.5)	3.10
Gromor, Coromandel	28-28-0 NPK (1:1)	3.60
Suphala	15-15-15 NPK (1:1:1) 20-20-0 (1:1)	6.7 5.0



OBJECTIVES

- FARMER FIRST
- BEST HANDHOLDING GUIDELINES
- SMOOTH & RISK-FREE TRANSITION FROM FLOODING TO AWD / DSR





HOW

- Increase Farmer knowledge and awareness (STC, Farm Days & Small Farmer meeting)
- Soil analysis and recommendation for nutrients
- Detailed brochures for AWD & DSR
- 24 Hour response on agronomy queries

Small Farmer Meeting

· Seed Selection (local, hybrid & High Yield) & Seed Treatment (Why important & how to do)

· AWD Pipe installation (where), how to maintain and how it would guide farmers when to irrigate

· INM - (Integrated Nutrient Management) : FYM & Farm Compost, Basal Dose, 1st top dressing & 2nd top dressing (what and when and how much), need for micro-nutrients

· IWM - Integrated weed management (flooding for certain period as water is natural weed suppressant, pre-emergent, post emergent, manual weeding)

· IPM - Integrated Pest Management & Disease Management

· AWD - What is AWD, Why AWD, How AWD When AWD & When not to do AWD

· Post Harvest options: Residue Incorporation, Remove and use as fuel, why not to burn the residue in the field

STREAMLINING OF MRV DATA

Day of a Field Officer

First Mandatory Task of A Day (Related to Attendance):

·Share the plan for the day

·Share Live Location for 8 hours on the respective group

·Share photos of plots - three times a day, capture with Note Cam (1st plot visit, mid of plot visit and last plot visit)

Data Entry on App

·Open app

·Select farmer

·Go to POP

·Select plot

·Select today's date

·Rainfall information: Nil / Heavy / Medium/ Low

·Field condition: Dry / Moist / Flooded

·Click on: No Operation today or Save and Add Operation (If there is any activity)

WHY ?

- **DATA ACCURACY**
- **OPTIMUM UTILIZATION OF RESOURCES**

Reviewer's Guide Sheet

• QUANTITY CHECK

1.Match / check all data plot-wise with Master list for that season (for both POP & Other Data downloaded from dashboard)

2.Ensure all fields have been populated

• QUALITY CHECK

1.The gap (number of days) between NS to TPR, TPR to Harvest or DSR Sowing to Harvest (these should match with the Crop Cycle for that seed variety)

2.Cost of each POP activity per acre should fall in the right range

3.Comparison with Baseline

a) Cost of cultivation of Dynamic should be equal of less than Baseline (otherwise we have to provide justification)

b) Yield in Dynamic should be equal or more than Baseline (otherwise we have to provide justification)

c) Irrigation in Dynamic should be less than Baseline

4.Dosage of Fertilizers and Crop Protection chemicals should be correct quantity per acre, if applied

5.The number of moist, dry & flooded days should be reviewed and ensured that it matches (%age of each category of days).

6.Remove rainfall entered before DSR Sowing & Transplantation and after Harvest.

7.Ensure days when irrigation & rainfall are entered, the soil moisture should show flooded and not dry.

HOW

- **Clear SOP for data entry and data review**
- **Checks and balances**
- **Scheduling of work**
- **Understanding terms in App in local language**
- **Interpretation of CPC**
- **Guide Sheets**
- **Check points for final data**
- **Audit of 100% plots by internal team**
- **Training of FOs and Reviewers**

Sustainable development benefits of the project

SDG 1 &2- No poverty and Zero Hunger

The project increases farmer income after adoption of DSR with AWD cultivation practice because of the reduction in the input costs without affecting on the yield and reduce poverty.

SDG 6- Clean water and sanitation

The project intervention involves two water saving techniques (AWD & DSR) leads to reduction in water usage for rice cultivation. The water saved due to the intervention can be directly used for other activities.

SDG 8 - Decent work and economic growth

The program focuses on the prevention of child labour and workers' rights violations. Field staff personnel will be hired from the local villages to conduct farm monitoring activities.

SDG 12 - Responsible consumption and production

The project reduces the carbon footprint of rice produced. Farms are cultivated responsibly with minimum water usage reducing pumping costs, fuel consumption and emission reduction in rice cultivation.

SDG 13- Climate action

Change in cultivation practice from traditional transplanting to DSR /AWD lead to reduction in GHG (methane) emissions and proper water management prevent ground water depletion.

SDG 17 - Partnerships for the goals

The project is a combined effort of multiple partners and stakeholders across multiple states and regions of India. These partners have come together for benefit of the farmers and the environment.