



“Baseline Study of the One CG Asian Mega Deltas (AMD) Initiative in Bangladesh”

IRRI References: PLA ID: C-2023-222

Agreement ID: A-2021-133

Technical Report

Reporting Period: 01 April 2024 – 31 October 2024

Submitted To:

Dr. Humnath Bhandari

IRRI Representative -Bangladesh

International Rice Research Institute (IRRI)

Submitted By:

AVA Development Society (AVADS)

Gopalpur Village, Lalpur, Natore, Bangladesh

Submission Date: 31 October 2024

Table of Content

SL No.	Content	Page No.
01	Introduction	03
02	Purpose and Objectives	03
03	Methodology	04
04	Financial management	05
05	Training	05
06	Deliverables of the Project Activities (As per LOA)	09
07	Areas of the activities	11
08	Challenges	14
09	Conclusion	14

1. Introduction

AMD is a research initiative focused on addressing the challenges faced by Asian Mega-Deltas, particularly in relation to climate change, food security, and sustainable agriculture. AMD aims to develop and promote innovative solutions to enhance the resilience and productivity of agri-food systems in these delta regions. The initiative is focusing on three main deltas in Asia; these are Ganges-Brahmaputra Delta in Bangladesh and India, Irrawaddy Delta in Myanmar, and Mekong Delta in Vietnam and Cambodia.

Home to 177 million people, 36% of them poor, the Asian Mega-Deltas are bio-diverse, fertile, and productive food baskets dominated by rice, fisheries, and aquaculture that support millions within and beyond the deltas. However, deltaic food systems are hit by serious impacts of climate change, including more frequent and more intense floods, salinization, water shortages, and climate extremes that will slow down economic growth, further erode food and nutrition security, exacerbate urbanization and migration challenges, and trigger new poverty traps and emerging hotspots of hunger.

In this connection AVA Development Society (AVADS) has been conducting the baseline study of Asian Mega Delta Project in Bangladesh since November 01, 2023 to till date has been completed the targeted activities as per the LOA in support with International Rice Research Institute (IRRI) financially. Thus, AVADS has completed the assigned activities in collaboration with the colleagues of different work packages to achieve the objectives of the study. AVADS has experience to conduct three different surveys in the northern and southern part of Bangladesh as awarded by the IRRI for different respective project duration.

2. Purpose and Objectives:

This Initiative aims to create resilient, inclusive and productive deltas, which maintain socio-ecological integrity, adapt to climatic and other stressors, and support human prosperity and wellbeing, by removing systemic barriers to the scaling of transformative technologies and practices at community, national and regional levels.

These objectives are achieved through:

- **Improving deltaic production systems** by working with farmers and local governments to identify, synthesize, evaluate and scale interventions to ensure systems can adapt to and mitigate the effects of climate change.
- **Developing nutrition-sensitive deltaic agri-food systems** by promoting sustainable production and consumption of nutritious foods, involving institutional stakeholders in the co-design of investment strategies and interventions.
- **Reducing risk in delta-oriented value chains** by using evidence-based decision-support tools and engaging with stakeholders at all levels to identify, prioritize and support the most inclusive and appropriate land-water use options and management systems.
- **Facilitating joined-up, gender-equitable, inclusive deltaic systems governance** by working with communities, local governments and civil society partners to co-design and implement social processes that enable marginalized groups, women and youth to better access delta resources and technologies and become more equal partners in food systems innovation.

- **Introducing evidence-based delta development planning** by assessing climatic and socioeconomic trends, developing trans-boundary change scenarios and facilitating the co-development of policies and collaboration mechanisms. Coordination across deltas will ensure a coherent approach to lessons learned.

Thus, the Baseline study showed the current status of the outcomes and impacts through measuring different relevant indicators. The study findings that showed different results in different outcomes that would help AMD decision makers to make its investment decision i.e. which geographical area and program component require more funding. So, baseline survey data have created scope to set very realistic targets for the coming years as well.

3. Methodology:

Survey Approach: The baseline survey designed mainly on quantitative data collection method using set tools from the sampled respondent. The quantitative data will be collected through two structured questionnaires respectively for main farmers and women.

Survey location and Target populations: The survey conducted at 03 districts (Khulna, Patuakhali & Barguna) under 02 divisions (Khulna & Barishal) where 12 Upazila covered of the southern part of Bangladesh. Under Upazila there were unions and villages from where the information was collected through sampling process. Data have been analyzed at Union, Upazila, District and Division level.

The targeted population for interview was farmers and women of the targeted household. Thus 1440 farmers and 504 women were interviewed.

Sampling technique: The samples were distributed to enumerators according to village wise. In average, male enumerators have surveyed 100 samples/enumerator and female enumerators have surveyed 168 samples/enumerator.

Development of the survey tools and field demonstration: The survey questionnaires were developed by the IRRI HQ MELIA team in support with the work package leaders & teams and other relevant personnel. Then after the field test the questionnaire has been finalized and used in the data collection software (Survey Solution) maintaining the necessary process.

Data collection and analysis: The data has been collected through using mobile devices based on the Survey Solution interview application tools. A detailed data analysis plan was prepared through data quality checking, consistency and data validation process during and after data collection process at field level.

Monitoring and Supervision: During survey period, AVADS's Monitoring team was involved in monitoring data collection, supervising enumerators, and supervisors, and coordinating and networking with local administrations and stakeholders. A total number of enumerators were divided into several small groups under the supervision of assigned supervisors to ensure the quality of data collection and close monitoring. A WhatsApp group was created for the whole team members led by the Team Leader for easy communication, instruction, or message dissemination, instantly solving any field-related problems and quarries.

To ensure quality data, the supervisors performed checks, back-checks, and final checking of the data; they conducted a shadow survey in 1-2% samples to cross-check the data inputs, without informing the enumerators. Additionally, they also downloaded the database daily to check for errors in the frequencies, range, etc. for authentication and validity. Every day we used the assigned HHs GPS location which would be shared with all enumerators, supervisors, and monitoring team through Google Map for tracking real presence. At the end of the day all the supervisors and monitoring team checked all collected data from the field, If any data inconsistency was found then the assigned enumerator revisited the selected HH to collect the data again.

The data validation has also been done by the IRRI Bangladesh and IRRI HQ team and communicated with the respective enumerators for recheck the data for any inconsistency before approve in the data management system through survey solution.

Report: This Baseline Report has been produced using the prescribed format. Respective firm consultants in collaboration with the WP leads, IRRI Bangladesh respective personnel and IRRI Head Quarter personnel produced the first draft report. The baseline report produced in English only. The draft report has been shared with different stakeholders/partners for their review and comments and final report has prepared incorporating those feedbacks.

4. Financial management:

The financial management has taken place as per the IRRI organizational policy focusing on the budgeted amount and the payments mode for the consulting firm will also be processed accordingly in alignment with the IRRI financial and procurement policy.

Total budget is BDT 5,994,000.00.

5. Training:

AVADS has arranged training to 15 male enumerators and 03 female enumerators in Khulna. Donald Villanueva, Justin Dela Rueda, Jeny Raviz were attended from IRRI HQ and Mohammed Shaheen Bhuiya and Md. Monirul Islam were attended from IRRI Bangladesh office. Also, Md. Mesbahul Haque was attended from AVADS HQ in that training period. There were three types of training – (i) indoor training, (ii) outdoor training and (iii) refresher training.

(i) **Indoor Training:** There was four days indoor training. Donald Villanueva & Justin Dela Rueda were given training according to baseline questionnaires and Jeny Raviz was given training on GPS.



Photo: Indoor Training



Photo: Indoor Training

(ii) **Outdoor Training:** There was one day outdoor training focusing on field suitability of the questionnaire and how effectively enumerators collect the data. Donald Villanueva, Justin Dela Rueda, Jeny Raviz and Md. Monirul Islam were present at outdoor training period. Also, Md. Mesbahul Haque was attended from AVADS HQ in outdoor training period.





Photo: Outdoor Training

(iii) **Refresher Training:** AVADS was arranged an additional training before start the survey work. This training was only one day indoor training in Khulna. The purpose of this additional training was on few questionnaires correction of baseline survey. Md. Monirul Islam from IRRI Bangladesh office has given this additional training to enumerators. Also, Md. Mesbahul Haque was attended from AVADS HQ in that additional training.

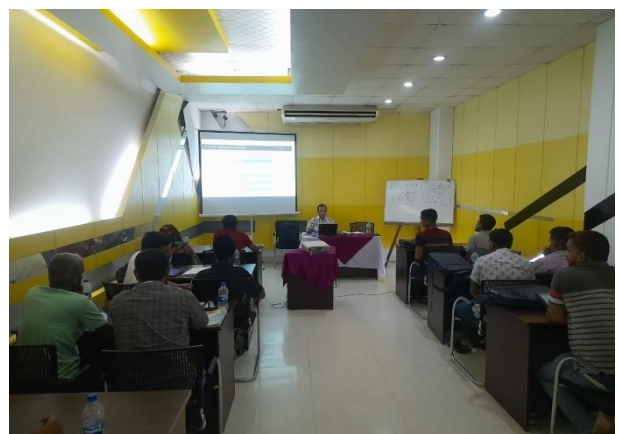


Photo: Refresher Training

6. Deliverables of the Project Activities (As per LOA):

The following activities to be delivered by AVADS:

1. Recruited and supervised enumerators, field monitoring officers and field coordinators in consultation with the IRRI research team.
2. Organized and facilitated enumerator's training workshop in Bangladesh in coordination with IRRI research team.
3. Established a village list containing validated names of farmers and their key information (Location, Contact Number, Farming System, Land Holdings etc.) from 80 to 100 villages in Barishal and Khulna divisions to inform the sampling design of the study such as but not limited to.
4. Organized, scheduled, and spearhead the following data collection
 - a. Farm household survey for 1,440 households and 504 wives from 504 households (out of 1,440 households)
 - b. Collect GPS data/measurement of the main plots of 1,440 farming households
 - c. Conduct ground-truthing of 500 plots (IRRI selected locations/ villages);
5. Monitoring and ensured successful and completed data collection of enumerators using Survey Solution in Android tablets. Coordinate follow-up data collection as needed.
6. Regularly updated the IRRI research team on the status of data collection activities.
7. Participated other project-related activities (e.g. preparatory work such as planning, pre-testing of questionnaires, sampling workshop) not specified above as may be required by IRRI.





Photo: Male farmer survey by enumerators



Photo: Female farmer survey by enumerators



Photo: GPS collection in flooded land by enumerator

7. Areas of the activities:

In this survey study, we covered 02 (two) divisions, 03 (three) districts, 09 (nine) upazilas, 36 (thirty six) unions and 72 (seventy two) villages. The areas are following.

SL	Division	District	Upazilla	Group	Union	Village
1	Barisal	Barguna	Amtali	Treatment	Gulisakhali	Bazarkhali
2	Barisal	Barguna	Amtali	Treatment	Gulisakhali	Deppur
3	Barisal	Barguna	Amtali	Treatment	Atharagashia	Atharagashia
4	Barisal	Barguna	Amtali	Treatment	Atharagashia	Chowla
5	Barisal	Barguna	Amtali	Control	Chowra	Batiaghata
6	Barisal	Barguna	Amtali	Control	Chowra	Chalabhanga
7	Barisal	Barguna	Amtali	Control	Amtali	Sekandarkhali
8	Barisal	Barguna	Amtali	Control	Amtali	Karaibunia
9	Barisal	Barguna	Taltali	Treatment	Sonakata	Idupara
10	Barisal	Barguna	Taltali	Treatment	Sonakata	Lowpara
11	Barisal	Barguna	Taltali	Treatment	Sarikkhali	Kachupatra
12	Barisal	Barguna	Taltali	Treatment	Sarikkhali	Nalbunia
13	Barisal	Barguna	Taltali	Control	Pancha Koralia	Joyalbhanga
14	Barisal	Barguna	Taltali	Control	Pancha Koralia	Gabbaria
15	Barisal	Barguna	Taltali	Control	Chhota Bagi	Gandamara
16	Barisal	Barguna	Taltali	Control	Chhota Bagi	Bethi Para

SL	Division	District	Upazilla	Group	Union	Village
17	Barisal	Barguna	Barguna Sadar	Treatment	Ayla Patakata	Langalkata
18	Barisal	Barguna	Barguna Sadar	Treatment	Ayla Patakata	Badhu Thakurani
19	Barisal	Barguna	Barguna Sadar	Treatment	Phuljhury	Andar Manik
20	Barisal	Barguna	Barguna Sadar	Treatment	Phuljhury	Road Para
21	Barisal	Barguna	Barguna Sadar	Control	Dhalua	Shapa
22	Barisal	Barguna	Barguna Sadar	Control	Dhalua	Paschim Fuldhalua
23	Barisal	Barguna	Barguna Sadar	Control	Naltona	Garjanbunia
24	Barisal	Barguna	Barguna Sadar	Control	Naltona	Sonatala
25	Barisal	Patuakhali	Bauphal	Treatment	Bauphal	Bauphal
26	Barisal	Patuakhali	Bauphal	Treatment	Bauphal	Jauta
27	Barisal	Patuakhali	Bauphal	Treatment	Surjyamani	Surjyamani
28	Barisal	Patuakhali	Bauphal	Treatment	Surjyamani	Pangasia
29	Barisal	Patuakhali	Bauphal	Control	Adabaria	Adabaria
30	Barisal	Patuakhali	Bauphal	Control	Adabaria	Atoskhali
31	Barisal	Patuakhali	Bauphal	Control	Noamala	Noamala
32	Barisal	Patuakhali	Bauphal	Control	Noamala	Batkajal
33	Barisal	Patuakhali	Galachipa	Treatment	Kalagachhia	Kalyankalas
34	Barisal	Patuakhali	Galachipa	Treatment	Kalagachhia	Kharijjama
35	Barisal	Patuakhali	Galachipa	Treatment	Dakua	Dakua
36	Barisal	Patuakhali	Galachipa	Treatment	Dakua	Purba Atkhali
37	Barisal	Patuakhali	Galachipa	Control	Amkhola	Uttar Amkhola
38	Barisal	Patuakhali	Galachipa	Control	Amkhola	Kanchanbaria
39	Barisal	Patuakhali	Galachipa	Control	Chiknikandi	Sutabaria
40	Barisal	Patuakhali	Galachipa	Control	Chiknikandi	Kalaraja
41	Barisal	Patuakhali	Patuakhali Sadar	Treatment	Kamalapur	Chandipur
42	Barisal	Patuakhali	Patuakhali Sadar	Treatment	Kamalapur	Char Balaikati
43	Barisal	Patuakhali	Patuakhali Sadar	Treatment	Chhota Bighai	Haritakibaria
44	Barisal	Patuakhali	Patuakhali Sadar	Treatment	Chhota Bighai	Matibhanga
45	Barisal	Patuakhali	Patuakhali Sadar	Control	Badarpur	Badarpur
46	Barisal	Patuakhali	Patuakhali Sadar	Control	Badarpur	Gabua
47	Barisal	Patuakhali	Patuakhali Sadar	Control	Itabaria	Dakurbunia
48	Barisal	Patuakhali	Patuakhali Sadar	Control	Itabaria	Ghopkhali
49	Khulna	Khulna	Batiaghata	Treatment	Surkhali	Kalyansree
50	Khulna	Khulna	Batiaghata	Treatment	Surkhali	Surkhali
51	Khulna	Khulna	Batiaghata	Treatment	Baliadanga	Phulbati
52	Khulna	Khulna	Batiaghata	Treatment	Baliadanga	Dhadua
53	Khulna	Khulna	Batiaghata	Control	Bhanderkote	Hajirabad
54	Khulna	Khulna	Batiaghata	Control	Bhanderkote	Naoaitala

SL	Division	District	Upazilla	Group	Union	Village
55	Khulna	Khulna	Batiaghata	Control	Gangarampur	Par Salua
56	Khulna	Khulna	Batiaghata	Control	Gangarampur	Katamari
57	Khulna	Khulna	Dumuria	Treatment	Magurkhali	Shibnagar
58	Khulna	Khulna	Dumuria	Treatment	Magurkhali	Magurkhali
59	Khulna	Khulna	Dumuria	Treatment	Bhandar Para	Jabra
60	Khulna	Khulna	Dumuria	Treatment	Bhandar Para	Perikhali
61	Khulna	Khulna	Dumuria	Control	Sarappur	Britti Bhulbaria
62	Khulna	Khulna	Dumuria	Control	Sarappur	Ratankhali
63	Khulna	Khulna	Dumuria	Control	Kharnia	Panchuria
64	Khulna	Khulna	Dumuria	Control	Kharnia	Bhadradia
65	Khulna	Khulna	Paikgachha	Treatment	Deluti	Jirbunia
66	Khulna	Khulna	Paikgachha	Treatment	Deluti	Maruga Deluti
67	Khulna	Khulna	Paikgachha	Treatment	Garuikhali	Dakshin Amirpur
68	Khulna	Khulna	Paikgachha	Treatment	Garuikhali	Uttar Bainbari
69	Khulna	Khulna	Paikgachha	Control	Haridhali	Char Kapotkha
70	Khulna	Khulna	Paikgachha	Control	Haridhali	Pratapkati
71	Khulna	Khulna	Paikgachha	Control	Chandkhali	Gajalia
72	Khulna	Khulna	Paikgachha	Control	Chandkhali	Dhoha Kula

8. Challenges:

There were some challenges at survey period. These are following –

1. Some farmers were busy in day time. So, they were not interested to attend at survey work.
2. A severe cyclonic storm Remal was attacked at survey period. That time enumerators could not work five days. At that moment, they were staying safe zone inside their working upazila.
3. It was rainy season. So, it was difficult to move some villages for clay road.
4. Some farmer's field was flooded. In that case, enumerators were taken GPS inside of flooded land. It was so risky because snacks have moved inside the flooded water.

9. Conclusion:

AVADS has completed the above-mentioned activities within the stipulated time and shared field updates with the IRRI team regularly. We are very much thankful to the IRRI and AMD Bangladesh team and Specially Dr. Humnath Bhandari for their cooperation and support in conducting training and assistance during the survey activity.

Report prepared and submitted by



Md. Mesbahul Haque
Program Coordinator
AVA Development Society