

Project Completion Report

Submitted by
Rehabilitation Employment and Development for the Youth
(READY)



Submitted to
Feed the Future Bangladesh Aquaculture Activity
WorldFish



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Project Brief:

| | | |
|--|--|-----------------------------|
| Project Title | Wider-scale promotion of Generation-3 rohu (G3 rohu) through supply chain development. | |
| Agreement Period | Start Date: 01-02-2023. | End Date: 30-09-2023 |
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Abbreviation:

| | |
|----------------------|---|
| AMP | Aquatic Medicinal Product |
| AIN | Income and Nutrition |
| DIP | Details Implementation Plan |
| DoF | Department of Fisheries |
| DFO | District Fishery Officer |
| DC | Deputy Commissioner |
| G-3 | Generation-3 |
| GoB | Government of Bangladesh |
| IYD | International Youth Day |
| IEC Materials | Information Education & Communication Materials |
| IWD | International Women Day |
| KAS | Knowledge Attitude and Skills |
| KPI | Key Performance Indicator |
| LEAF | Local Extension Agent for Fisheries |
| LSP | Local Service Provider |
| OSSC | One Stop Service Center |
| NFW | National Fish Week |
| NGO | Non-Government Organization |
| READY | Rehabilitation Employment and Development for the Youth |
| PC | Project Coordinator |
| USAID | United States Agency for International Development |
| UFO | Upazila Fishery Officer |
| SUFO | Senior Upazila Fishery Officer |

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1.0 Executive Summary

Fish production and profit is mostly depending on quality seed. Spawns and Fingerlings produces from the fish hatchery greatly from Jashore for the greater South-West region of Bangladesh. Due to the inbreeding problems the growth of Carps species becoming unsatisfactory day by day. Farmers are facing critical difficulties to get return on their investment. On the contrary, the price of feed is increasing due to the cost of ingredients increased a lot.

WorldFish through its Carp Genetic Improvement Program (GIP) developed strain of Rohu named generation-3 (G-3) Rohu in 2020 with a long research from 2012; collecting wild seeds from the Halda, Jamuna, and Padma rivers at the starting. To have the brood stocks at the privately owned hatcheries level WorldFish provided this Generation 3 (G3) rohu in 2020 and 2021 and nurseries and trial farmers to see the growth performance. It has been found that G3 rohu strain grows more than 37% faster than the conventional rohu strains now available in the country. Hatcheries, with G3 rohu brood stock first produced small scale commercially quantities of seed for sale to nurseries and farmers in 2022. All the hatcheries are from Jashore, the Southern West part of Bangladesh.

For the expansion of the technology and the G-3 rohu among the six districts Like, Jashore, Satkhira, Bagerhat, Gopalganj, Narail and Khulna in the name of 'Wider-scale Promotion of Generation-3 (G-3) Rohu through supply chain development' READY got the contract with the WorldFish in 2023 under USAID Feed the Future Bangladesh Aquaculture and Nutrition Activity (Aquaculture Activity). READY implemented different interventions to strengthen the supply chain. The project spanned a period of 8 months, commencing on February and concluding on September 2023. The project was conducted in 27 Upazila six districts, 73 unions of the district under the division of Khulna and Faridpur.

In the 'Business networking events between Hatchery, Nursery Owners and Seed seller/ Patilwala' a total of 301 participants among Hatchery owner-15; Nursery Owners-75; Seed seller/ Patilwala-150; DoF representatives-15; READY-57 and WorldFish and other relevant organization-11 attended. Participants appreciated the session on 'Best management Practices (BMP), backward and forward linkages etc. Most importantly, they were enjoyed the session on questions and answers facilitated by the respective UFO/SUFO/DFO. They were emphasizing on the reducing of prices on G-3 spawns and fingerlings where the hatchery owners agreed upon that. They hatchery owners told the events that the prices were high in 2022 due to high demand compare to production. It will be reduced a lot in this year, 2023 and assuming much production. They have the sufficient broods ready for the spawn production. We observed that the prices were very reasonable this year varies from BDT-2000 to 10,500. Where the last year it was around BDT-15000.

A total of 151 'Business Promotion Events With Farmers' were conducted with the participation of 3044 farmers (35.11% Female). The program was organized at different villages level locations chosen by the farmers. The time was also fixed on their interests. The time duration was three hours. Sometimes it was on the morning starting at 10:00 am continued up to 1:00 pm. If it is started at 3:00 pm then it will continue up to 6:00 pm. The program was arranged based on the community demand and availability ponds and ghers areas. In the Ramadan period the events were organized at the Hindu community rather in Muslims concentrated areas. READY provided importance on the capacity building of the staffs, before conducting the sessions dry run sessions were conducted by the PC based on his skills and background on fisheries.

In the 'Business promotion events with farmers focusing the One Stop Service Center (OSSC)' a total of 407 farmers attended (Female-128). Discussion points were AMPs available to the owner of center/shop and its uses; BMP versus present practices; Sources of G-3 rohu spawns, Dhani and fingerlings, backward and forward linkages; question and answer; role of OSSC, READY and Petrochem on the business promotion of G-3 rohu etc. A tremendous coverage on G-3 stocking to ponds/ghers found and also some participants conducted G-3 nursery to greater Debhata areas under Satkhira district.

READY management had a frequent communication with the WorldFish during preparation of IEC materials like leaflets, Festoons and G-3 rohu T-shirt. A total of leaflets-8000, Festoons-8 and G-3 rohu T-shirt-300 were developed and distributed among the WorldFish, Petrochem, fish hatchery, nursery, seed sellers and farmers. The material was qualitative and timely distributed to the stakeholders.

Project celebrated International Women's Day, National Fish Week and the International Youth Day with the district respective departments and the district administration. In the IWD, READY develop IEC material from its own cost and provided to the attendees. On the contrary, at the IYD READY printed 200 T-shirt and provided to the participants by which participants know more about the USAID funded Feed the Future Bangladesh Aquaculture and Nutrition Activity, WorldFish, the READY and G-3 rohu.

READY has developed the database of the farmers attended in different events like, list of farmers participated in the farmers' event and attendance of OSSC program. Both the lists are available to the deliverables folder of milestone-4.

With the unspent money from salary & benefits and money from 'Success story regarding G3 rohu culture will be created and broadcasted through national TV channel and social media networks' subhead READY has developed the video and telecast on TV and social media networks. In addition, established well-furnished two OSSC; one is at Gotapara, Bagerhat Sadar and another one at Faltita, under Fakirhat Upazila of Bagerhat district. Both areas are concentrated on fish and shrimp cultivation. Objective is to provide technical as well as AMPs support required to the farmers, even beyond the period.

A lot of successes were told by the respective participants in the 'Project Closing Meeting' organized by the READY at head office, Bagerhat on 18 September 2023. Some of the stories (eight) are captured through case story documentation and are posted in the deliverable folder.

Through conducting different events with the actors of the fish culture value chain like, hatchery, nursery, seed seller and farmers READY gained lot of experiences. There are wonderful responses found at all level seeing G-3 growth performance and demands creation.

The amount of seed that produced from the hatcheries mostly from Jashore has a high demand to the fish nursery and the farmers level at Bagerhat, Narail and Gopalganj district. Farmers has to spent significant amount of time, money, transport hassles, effort etc. to collect fingerling and spawn from Jashore. It will be convenient if technical supports are provided at each union level to develop fish nursery, encouraging interested entrepreneurs. The benefits of the interventions will reduce the costs of transportation, minimize hazards of the fingerling tress, timely ensure, saving man-days, quality fish seeds of G-3 Rohu etc.

2.0 Introduction

2.1 Background of the Project

Seed quality has a significant impact on fish production and profit. Quality brood is the pre-requisite for quality seed production, but timely access to quality seed is still a constraint for many fish producers. To address this issue, WorldFish initiated the Carp Genetic Improvement Program (GIP) in 2012 with support from USAID through the AIN project. Later, Feed the Future Bangladesh Aquaculture and Nutrition Activity (Aquaculture Activity) and Fish Innovation Lab continued the Program. Anosupport has come from IFAD, Bill & Melinda Gates Foundation, European Commission, CGIAR Research Program on Fish Agri-Food Systems (FISH), and the CGIAR Resilient Aquatic Food Systems for Healthy People and Planet initiative.

In 2012, seeds from wild rohu (*Labeo rohita*) stocks were collected as spawn from the Halda, Jamuna, and Padma rivers and then reared to maturity. Then, after an intensive and long-running scientific effort, WorldFish released Generation 3 (G3) of its genetically-improved rohu strain in 2020 and 2021 to hatcheries - to be grown into broodstock – and to nurseries and farmers for trial performance. The WorldFish genetically improved rohu strain has been selected for rapid growth and it has been found that G3 rohu of this strain grows more than 30% faster than the conventional rohu strains now available in the country. Hatcheries supplied with G3 rohu brood stock in 2020 first produced commercial quantities of seed for sale to nurseries and farmers in 2022. In 2023, the amount of seed that will be available to farmers from hatcheries is expected to grow dramatically as brood stock becomes larger and more hatcheries adopt G3 rohu within and outside the ZOI.

Due to marketing efforts of the Activity, up to 2022, approximately 10,000 fish farmers have become familiar with it, and more than a thousand farmers have grown G3 rohu in their ponds in Jashore, Khulna, and Satkhira districts. However, with the greater availability of genetically improved rohu in coming years it is evident that a lot of fish farmers and other aquaculture market actors lack awareness of genetically improved rohu. The aquaculture market actors typically need information about G3 rohu.

To address the gap in information service provision in aquaculture, the Activity looked for proposals for the wider-scale promotion of G3 rohu through information and market linkages with the hatchery and nursery owners, fish farmers, and other market actors. After a competitive selection procedure, the Activity selected READY as a suitable organization to perform the tasks accordingly.

In 2023, Rehabilitation Employment And Development for the Youth (READY) got the contract with the WorldFish for the development of the supply chain of the generation 3 (G-3) Rohu and to expand at the farmers level. READY in collaboration with Feed the Future Bangladesh Aquaculture and Nutrition Activity (Aquaculture Activity) implementing the intervention ‘Wider-scale Promotion of Generation-3 (G-3) Rohu in six districts Like, Jashore, Satkhira, Bagerhat, Gopalganj, Narail and Khulna. Through conducting different events with the actors of the chain like, hatchery, nursery, seed seller and farmers READY gained lot of experiences. There are tremendous responses found at all level seeing its growth performance and demands created. The amount of seed that produced from the hatcheries mostly from Jashore has a high demand to the fish nursery and the farmers level.

2.2 Proposed Solution

Seed and feed are the prerequisite of doing business and making profit for the fish culture. Due to inbreeding problems occurred in the South-West part of Bangladesh farmers continuously complaining less growth of carp species especially about the rohu. Within the continuous research more than 10 years on the rohu WorldFish finally able to discover the G-3 rohu stain. Through the farmers' trial it has proven 37% faster growth in compare to the spawn collected from Padma, Jamuna and Halda river. On the other hand, more growth found compare to fingerling collected from the traditional hatcheries.

Development of trustworthy business relationship among the hatchery and nursery owner; Patilwala/seed seller and farmers can bear good result. This idea is implemented through this project period with the active support from WorldFish. Activities performed are; a. Business networking events between Hatchery, Nursery Owners and Seed seller/ Patilwala, b. Business promotion events with farmers, c. Business promotion events with farmers focusing the One Stop Service Center (OSSC).

Supports mechanism and coordination and collaboration strengthened with the other partners of WorldFish and business entrepreneurs like, Petrochem Bangladesh Limited, Afil Group, Genetic Aqua Hatchery and Breeders, Bagerhat, Department of Fisheries etc. All the efforts were provided for better interests of business actors of fish culture areas and promotion of G-3 rohu promotion.

2.3 Objectives of the Partnership

The specific objectives among the WorldFish and READY of the intervention are to

- Identify potential market actors to sustain G3 rohu seed supply and associated support
- Establish linkages among the identified actors to create a functional supply chain of G3 rohu (seed and fish)
- Closely work with hatcheries, nurseries, and farmers so that trusted relationships are built among them about G3 rohu
- Plan and organize promotional activities to scale up the usages and benefits of G3 rohu seed, in consultation with the WorldFish Dissemination Manager
- Establish linkages with One Stop Service Centers (OSSCs)

Geographic Coverage

Here below is the list District, Upazila and Unions where READY worked to implement the project.

| Sl# | Name of district | Upazila | Union |
|-----|------------------|----------------|-----------|
| 1 | Bagerhat | Bagerhat Sadar | Baroipara |
| 2 | | | Gotapara |
| 3 | | | Jatrapur |
| 4 | | | Karapara |
| 5 | | | Khanpur |

| | | | |
|----|-----------|----------------|--------------|
| 6 | | | Rakhalgachi |
| 7 | | | Satgonbuj |
| 8 | | Kachua | Badhal |
| 9 | | Fakirhat | Fakirhat |
| 10 | | | Lokpur |
| 11 | | | Mulghor |
| 12 | | | Piljongo |
| 13 | | Rampal | Banitola |
| 14 | | | Mollikerber |
| 15 | | Chitalmari | Chitalmari |
| 16 | | | Charbaria |
| 17 | | Mollahat | Chunkhola |
| 18 | | Mongla | Mithakhali |
| 19 | | Morelgonj | Bonogram |
| 20 | Gopalganj | Kotalipara | Monoharpur |
| 21 | | | Ramshil |
| 22 | Narai | Narail Sadar | Sheikhhati |
| 23 | | | Tularampu |
| 24 | | Lohagora | Noldi |
| 25 | Satkhira | Satkhira Sadar | Fingri |
| 26 | | | Labsha |
| 27 | | | shibpur |
| 28 | | Tala | Kholilnagar |
| 29 | | Kolaroa | Helatola |
| 30 | | | Jalalabad |
| 31 | | Shymnagar | Biralakhki |
| 32 | | | Atulia |
| 33 | | Debhata | Debhata |
| 34 | Khulna | Dumuria | Gutudia |
| 35 | | | Khornyia |
| 36 | | | Rangpur |
| 37 | | | Rudghora |
| 38 | | | Sahosh |
| 39 | | | Sovona |
| 40 | | | vandrpara |
| 41 | | Botiaghata | Gongarampur |
| 42 | | Dacope | Chalna |
| 43 | | | Koilasgonj |
| 44 | | Phultola | Atragilatola |
| 45 | Jashore | Jashore Sadar | Arabpur |
| 46 | | | Basondia |
| 47 | | | Chanchra |
| 48 | | | Curomonkathi |

| | | |
|----|-------------|--------------|
| 49 | | Deyara |
| 50 | | Fatepur |
| 51 | | Kachua |
| 52 | | Noapara |
| 53 | | Norendrapur |
| 54 | | Ramnagar |
| 55 | Monirampur | Monirampur |
| 56 | | Jhapa |
| 57 | | Durbadanga |
| 58 | | Horidaskathi |
| 59 | | Kultia |
| 60 | | Nehalpur |
| 61 | | Monoharpur |
| 62 | | Dhakuria |
| 63 | | Hariharnagar |
| 64 | Keshobpur | Hasannagar |
| 65 | | Sufolakathi |
| 66 | Chougasa | Snghojuli |
| 67 | | Singhokuli |
| 68 | | Pasapole |
| 69 | | Fulsara |
| 70 | Jhikorgacha | Bankra |
| 71 | Bagarpara | Jamdia |
| 72 | Abhaynagar | Prembag |
| 73 | | Sundoli |

2.4 Project KPI and Budget Summary

Overall Key Performance Indicator (KPI) and Budget Summary of this project of Rehabilitation Employment and Development for the Youth (READY) has shared below:

| Activity | Means | Unit | Targets | When | MOV |
|--|-------------------|--------|---------|------------|------------------|
| Project Orientation and Capacity building ToT Event on aquaculture, G3 Rohu, aquaculture technology focusing BMP, Seed distribution for project staffs | # of event | Number | 2 | Feb'23 | Attendance sheet |
| Business networking events with Hatchery, Nursery Owners and Seed seller/ Patilwala | # of event | Number | 15 | Feb-Mar'23 | Attendance sheet |
| Business promotion events with farmers | # of events | Number | 150 | Apr-Jun'23 | Attendance sheet |
| | # of participants | Number | 3,000 | | |
| Business promotion events with farmers focusing the One Stop Service Center (OSSC) | # of events | Number | 20 | May-Jun'23 | Attendance sheet |
| | # of participants | Number | 400 | | |

| Activity | Means | Unit | Targets | When | MOV |
|----------|-------|------|---------|------|-----|
| | | | | | |

Budget Summary

| | | Negotiated Budget | | | | | | | | |
|---|---|-------------------|------------------------------------|----------------|-------------------|------------------|-----------|-----------|---------|-----------------------------|
| | | | | | | Investment Ratio | | | | |
| # | Summary Budget | LOE/ # | UNIT COST (Excluding VAT) | No of units | % of WorldFish | % of Grantee | Total | FtF BAA | Grantee | Remarks & Budget Note |
| A | Staffs Salary | | | | 100% | 0% | 1,832,000 | 1,832,000 | - | |
| B | Staffs Benefits | | | | 100% | 0% | 153,430 | 153,430 | - | |
| C | Equipment, Supplies and Operation Cost | | | | 100% | 0% | 140,000 | 140,000 | - | |
| D | Travel | | | | 100% | 0% | 304,000 | 304,000 | - | |
| E | Activity Cost | | | | 100% | 0% | 1,940,050 | 1,940,050 | - | |
| F | Direct Cost | | | | 100% | 0% | 4,369,480 | 4,369,480 | - | |
| G | Others Cost | | | - | 0% | 0% | - | - | - | |
| H | Total Cost (BDT) | | | | 100% | 0% | 4,369,480 | 4,369,480 | - | |
| I | Total Cost (USD) | | Ex Rate | 102.87 | 100% | 0% | 42,476 | 42,476 | - | |

3.0 Project Performance

3.1 Outreach Summary

Here READY conducted major three interventions like below:

Intervention: Business networking events between Hatchery, Nursery Owners and Seed seller/ Patilwala

1. Trusted business relationship developed between Hatchery, Nursery Owners and Seed seller/ Patilwala to promote Generation-3 (G-3) Rohu. Through this event READY reached 75 nursery owners, 150 fry traders, and 15 hatchery owners.
2. A total of 60 fish nurserer (All are male) started of G-3 spawn rearing and selling their products amounting 40,09,5000 number of fingerling through the Patilwala/seed sellers;
3. The intervention created access to essential information and services and supported to increase the productivity and income of fish market actors.
4. Strengthened G3 rohu supply chain and access of fish actors of wider geographical areas like, Jashore, Khulna, Natore, Kustia, Jhenidah, Barishal, Bhola, Faridpur, Bagerhat, Gopalganj etc.

Intervention: Business Promotion Events with Farmers.

1. Through the above 151 promotional events regarding G3 rohu cultivation best management practice (BMP), marketing backward and forward linkages information; IEC materials such as Leaflet, festoon strengthened capacity of 3044 farmers including 1069 female;
2. A total of 977 farmers started G-3 Rohu cultivation commercially with their 55 acres of ponds/ghers. Day to day this is increasing seeing the premium growth performance of the fish.

Intervention: Business Promotion Events with Farmers Focusing OSSC

1. Total event completed-20 out of 20.
2. Participants: Male-280 Female 127 Total-407.

3.2 Key Performance Indicators

Overall Key Performance Indicator (KPI) of this project of Rehabilitation Employment and Development for the Youth (READY) has shared below:

| Activity | Means | Unit | Targets | Achievement | % |
|---|--------------------|--------|---------|-------------|--------|
| 5.01 Project Orientation and Capacity building ToT Event on aquaculture, G3 Rohu, aquaculture technology focusing BMP, Seed distribution for project staffs | # of event | Number | 2 | 2 | 100 |
| 5.02 Business networking events with Hatchery, Nursery Owners and Seed seller/ Patilwala | # of event | Number | 15 | 15 | 100 |
| 5.03 Business promotion events with farmers | # of events | Number | 150 | 151 | 100.67 |
| | # of participants | Number | 3,000 | 3044 | 101.47 |
| 5.04 Business promotion events with farmers focusing the One Stop Service Center (OSSC) | # of events | Number | 20 | 20 | 100 |
| | # of participants | Number | 400 | 407 | 101.75 |
| 5.05 Promotional activities | | | | | |
| 5.05.01 Leaflets | # of Leaflet | Number | 8000 | 8000 | 100 |
| 5.05.02 Festoons | # of festoons | Number | 8 | 8 | 100 |
| 5.05.03 G3 t-shirt | # of t-shirt | Number | 300 | 300 | 100 |
| 5.06 Success story regarding G3 rohu culture will be created and broadcasted through national TV channel and social media networks | # of story | Number | 1 | 1 | 100 |
| 5.07 Project coordination meeting | # of meeting | Number | 2 | 2 | 100 |
| 5.08 National Nutrition week, Fish week and Day Observe (International Women's Day and Youth Day) | # of days observed | Number | 4 | 3 | 75 |
| 5.09 Attending training on environment and climate organized by WorldFish (as applicable) | # of event | Number | 1 | 1 | 100 |
| 5.10 Project closing meeting | # of event | Number | 1 | 1 | 100 |
| 5.11 Monthly Progress Report | # of Report | Number | 8 | 8 | 100 |
| 5.12 Project Completion report | # of Report | Number | 1 | 1 | 100 |
| 5.13 MEL data collection, processing and | # of Report | Number | 8 | 8 | 100 |

| Activity | Means | Unit | Targets | Achievement | % |
|---|------------|--------|---------|-------------|-----|
| submission (as applicable) | | | | | |
| 5.14 Success story collection and dissemination (as applicable) | # of Story | Number | 8 | 8 | 100 |
| Management Cost (Personnel, Supplies, Travel) | # of event | Number | 8 | 8 | 100 |

All cases READY achieved the target timely with maintaining the quality. In case of farmers' event one extra event with 30 female farmers was done on the request of WorldFish. On the contrary, on the activity of '5.08 National Nutrition week, Fish week and Day Observe (International Women's Day and Youth Day)' National Nutrition week was not done. On approval, the budgeted amount was spent on the 'National Fish week' program.

3.3 Activity Performance

a. **Name of activity:**

Project Orientation and Capacity Building ToT Event on aquaculture, G3 Rohu, aquaculture technology focusing BMP, Seed distribution for project staffs.

b. **Purpose of the activities:**

Strengthening the capacity of the activity staffs on way of conducting training sessions, technical know-how of aquaculture focusing Best Management Practice (BMP), forward and backward linkages of marketing, coordination with DoF, WorldFish etc.

c. **Methodology of the activities (how did you execute?)**

All staffs including management were participated in an orientation session regarding the project's objectives and improved aquaculture technology; operational modality, conducting techniques of the farmers' events at field level; etc. The events were anchored by the PC, READY, while program Officer and Market System Specialist of WorldFish, delivered key messages. MEL, Grants, Gender Specialist were delivered speeches through online platform.

d. **Timeline and place:**

Date 08-09 February 2023. Place: READY Head office, Alia Madrasah Road, Bagerhat.

e. **Number of participants:** 14.

f. **Immediate results etc.**

Skills and capacity of the staffs improved, they understood the operational modality of the project and their individual as well as team role as a whole.

a. **Name of activity:**

Business networking events with Hatchery, Nursery Owners and Seed seller/ Patilwala.

b. **Purpose of the activities:**

To build trusted relationship with the Hatchery, Nursery Owners and Seed seller/ Patilwala. So that they can be benefitted from each other in the promotion of G-3 rohu and having good business.

c. **Methodology of the activities (how did you execute?)**

With the technical supports from the WorldFish potential Hatchery were selected and then the hatchery owner assisted to identify the potential Nursery Owners and Seed seller/ Patilwala as participants of the event. The sessions were facilitated by the PC and management staffs of READY, WorldFish and DoF. Interactive session was welcome to analyze present market scenario and come to conclusion.

d. **Timeline and place:**

Time Line: February and March. Place: Different location chosen by the participants.

e. **Number of participants:** 301.

f. **Immediate results etc.**

Through the sessions participants understood Best Management Practices (BMP) of aquaculture, nursery management, spawn management, price negotiation, backward and forward linkages, supply chain of the product and its promotion, role of different stakeholders including READY and WorldFish etc.

a. **Name of activity:**

Business promotion events with farmers.

b. **Purpose of the activities:**

Strengthening the capacity of the farmers in cultivating G-3 rohu, Best Management Practices (BMP) of aquaculture, price negotiation of fingerling, backward and forward linkages, supply chain of the product and its marketing, role of different stakeholders including READY and WorldFish etc. in the business promotion of G-3 rohu.

c. **Methodology of the activities (how did you execute?)**

With the supports from the potential nursery owners, local elites, Patilwala, LEAF of DoF, business entrepreneurs' prospective farmers were selected. The sessions were facilitated by the PC and Field Officers of READY with the technical supports from WorldFish. Interactive session was welcome to analyze present market scenario, fingerling sources of G-3 rohu, price and come to conclusion.

d. **Timeline and place:**

Timeline: March, April, May, June, July and August. Place: Different location chosen by the participants.

e. **Number of participants:** 3044.

f. **Immediate results etc.**

Through the 151 sessions participants understood Best Management Practices (BMP) of aquaculture, fish pond/ghers management, price negotiation, backward and forward linkages, supply chain of the product and its promotion, role of different stakeholders including READY and WorldFish etc.

a. **Name of activity:**

Business promotion events with farmers focusing the One Stop Service Center (OSSC)

b. **Purpose of the activities:**

Build the capacity of the OSSC farmers in cultivating G-3 rohu, Best Management Practices (BMP) of aquaculture, price negotiation of fingerling, backward and forward linkages, supply chain of the product and its marketing, role of different stakeholders including READY and WorldFish etc. in the business promotion of G-3 rohu. Strengthening the linkages and networking with OSSC owner, service probation, making availability AMP for the farmers, technology dissemination etc.

c. **Methodology of the activities (how did you execute?)**

With the technical supports from the WorldFish and the Petrochem Bangladesh Limited potential OSSC were selected and then the OSSC owner assisted to identify the probable farmers of the event. The sessions were facilitated by the PC and management staffs of READY, Petrochem Bangladesh Limited. Interactive session was welcome to analyze present market scenario, available AMPs, problems in pons/ghers farming and come to conclusion.

d. **Timeline and place:**

Timeline: April, May and June. Place: Different location chosen by the participants.

e. **Number of participants:** 407.

f. **Immediate results etc.**

Through the 20 events, good relationship developed among OSSC owner, farmers, Petrochem Bangladesh Limited and the READY. Participants understood Best Management Practices (BMP) of aquaculture, fish pond/ghers management, price negotiation, backward and forward linkages, supply chain of the product and its promotion, AMPs, role of different stakeholders including READY and WorldFish etc.

After events, READY has communicated with OSSC farmers and have some observation like below:

- Most of the farmers has started G-3 cultivation;
 - Some of the advance farmers are rearing Dhani and also doing the G-3 rohu nursery those have opportunities;
 - Some are spreading the information of G-3 rohu among the neighbors, friends etc.;
 - Some are claiming for not getting desired size of fingerlings; and
 - Seeing the growth performance some are planning to stock more for over wintering and start culture from the beginning of the coming season.
-

a. **Name of activity:**

Business promotion events with farmers.

b. **Purpose of the activities:**

c. Strengthening the capacity of the farmers in cultivating G-3 rohu, Best Management Practices (BMP) of aquaculture, price negotiation of fingerling, backward and forward linkages, supply chain of the product and its marketing, role of different stakeholders including READY and WorldFish etc. in the business promotion of G-3 rohu.

d. **Methodology of the activities (how did you execute?)**

- a. With the supports from the potential nursery owners, local elites, Patilwala, LEAF of DoF, business entrepreneurs' prospective farmers were selected. The sessions were facilitated by the PC and Field Officers of READY with the technical supports from WorldFish. Interactive session was welcome to analyze present market scenario, fingerling sources of G-3 rohu, price and come to conclusion.

e. **Timeline and place:**

- a. Timeline: March, April, May, June, July and August. Place: Different location chosen by the participants.

f. Number of participants: 3044.

g. Immediate results etc.

Through the 151 sessions participants understood Best Management Practices (BMP) of aquaculture, fish pond/ghers management, price negotiation, backward and forward linkages, supply chain of the product and its promotion, role of different stakeholders including READY and WorldFish etc.

a. Name of activity:

Project Closing Meeting.

b. Purpose of the activities:

To capture the learning of the project and dissemination among the relevant stakeholder, validity of the outcomes of the project etc. Document the learning on cultivating G-3 rohu using the Best Management Practices (BMP) of aquaculture, nursery management, result of enhancing supply chain, inter-relationship of different stakeholders including READY and WorldFish etc. in the business promotion of G-3 rohu.

c. Methodology of the activities (how did you execute?)

With the supports from the WorldFish, READY and potential nursery owners, Patilwala, DoF, business entrepreneurs' prospective farmers the program was organized. It is organized by READY at its' head office with the participation of WorldFish, READY, Hatchery & Nursery Owners, Patilwala/seed sellers, journalist, Red Crescent Society, DoF, etc. The Project Coordinator facilitated the event with project achievements on multimedia presentation, Presentation on overall status of 'Feed the Future Aquaculture and Nutrition Activity' by WorldFish, success story was told by the relevant stakeholders. They were hatchery and nursery owners; Patilwala/seed sellers, farmers, commission agent etc. In the 'question and answer session for the next course of action further supply chain strengthening of G-3 Rohu' participants have the queries on different technical aspects of the generation-3 Rohu promotional activities. The session is facilitated by WorldFish, READY and DoF representative.

d. Timeline and place:

Timeline: 18 September 2023. Place: READY head office, Bagerhat.

e. Number of participants: 45.

f. Immediate results etc.

Journalist Khandakar Akmal Uddin of Bangladesh Radio and Baisakhi News expressed his gratitude towards the participants about their success stories and spontaneous responses. This is really a successful project, so far he attended different NGO programs. Nothing is artificial and fabricated. Through the sessions participants remind the Best Management Practices (BMP) of aquaculture, fish pond/ghers management, price negotiation, backward and forward linkages, supply chain of the product and its promotion, role of different stakeholders including READY and WorldFish etc. They realize the importance of coordinated efforts of the activities and that born good result. A total of eight participants told their success stories. In the snacks and lunch break of the meeting they communicated each other to have a business deal.

Lessons Learnt

3.4 Key Lessons Learnt

Key programmatic and market learnings are furnished below:

1. Combined support from the relevant stakeholders like, WorldFish, DoF, hatchery & nursery owner, Patilwala/seed sellers and READY assist to reach the goal of the project;
2. Hatchery, Patilwala and nursery owners' active supports ensured the presents of the intervention attendees timely and passionately;
3. Farmers feel confident getting info from nearby farmers on the technology viability;
4. The late adaptors sensitized on G-3 culture after seeing the growth performance of the neighboring farmers;
5. Demonstrate the videos on the events attract the participants and making them enthusiastic to the G-3 technology; and
6. READY are very much convinced to the promotion of G-3 being tested the technology to ponds/ghers of Executive Director, Director Administration and the Chairman.

With the financial support from USAID Feed the Future Bangladesh Aquaculture and Nutrition Activity (Aquaculture Activity) and the technical assistance of WorldFish the activities were performed smoothly. USAID Bangladesh team visited several times to READY operation areas that was inspiring and guiding. WorldFish provided technical support to perform the activities at field level through visiting, monitoring, guiding and coaching. Fund flow from WorldFish were timely.

3.5 Challenges

No major challenged is faced by the project internally and externally.

3.6 Key Innovation of the Project

-Making linkages with the stakeholder like, hatchery, nursery owners, Seed sellers through conducting different field based event, linkage meeting, over phone communication born good result

-Communication and close coordination with the WorldFish and READY eliminated the misunderstanding and making consensus.

3.7 Impact and Sustainability of the Intervention/ Business Model

There is a positive impact over on the promotion of G-3 rohu. In the project closing meeting it observed that the market actors have strong bondage among each other by the business deal. Hatchery owners has already sold out their traditional rohu brood and stocked the G-3 only. They will capitalize the relationship in the next time in selling the spawns. The technology impacted on the market actors in production and selling the spawns, Dhani, fingerlings and the fish. The business model established among hatchery, nursery, seed sellers and farmers will continue through the recognized trusted relationship.

3.8 Recommendations / Future Directions

READY is thinks the following intervention could continue:

- Continue the research for the replacing the G-3 rohu and adapting new like G-4, G-5 etc.;
- Continue research for other Indian major carps and silver carp;
- Research is crying needed for the shrimp like, Bagda, Golda and Benami;
- Continue communication with major stakeholders like Hatchery and nursery to maintain the quality of G-3 rohu; and
- Expanding the G-3 rohu promotional activities to whole country, Bangladesh for greater impact on fish production.

4.0 Project Budget and Financial Management

Following table is showing the expenditure status of READY:

Budget cost Summary

| | | Negotiated Budget | | | | | | | | |
|---|--|-------------------|------------------------------|-------------|------------------|--------------|-----------|-----------|-----------|-----------------------|
| | | | | | Investment Ratio | | | | Cost | |
| # | Summary Budget | LOE/# | UNIT COST (Excluding VAT) | No of units | % of WorldFish | % of Grantee | Total | FtF BAA | | Remarks & Budget Note |
| A | Staffs Salary | | | | 100% | 0% | 1,832,000 | 1,832,000 | 1,832,000 | |
| B | Staffs Benefits | | | | 100% | 0% | 153,430 | 153,430 | 153,430 | |
| C | Equipment, Supplies and Operation Cost | | | | 100% | 0% | 140,000 | 140,000 | 140,000 | |
| D | Travel | | | | 100% | 0% | 304,000 | 304,000 | 225000 | |
| E | Activity Cost | | | | 100% | 0% | 1,940,050 | 1,940,050 | 1,939,532 | |
| F | Direct Cost | | | | 100% | 0% | 4,369,480 | 4,369,480 | 4289962 | |
| G | Others Cost | | | - | 0% | 0% | - | - | - | |
| H | Total Cost (BDT) | | | | 100% | 0% | 4,369,480 | 4,369,480 | 4289962 | |
| I | Total Cost (USD) | | Ex Rate | 102.87 | 100% | 0% | 42,476 | 42,476 | 41702.751 | |

Instead of celebrating the ‘National Nutrition Week’ we took permission from WorldFish to use that budgeted amount to celebrate comprehensively ‘National Fish Week’ with the Department of Fisheries, Bagerhat whether the district administration chief Deputy Commissioner and DFO, Bagerhat participated.

5.0 Annexure

5.1 Annex 1: Impact of the intervention on core business

READY is a national non-profit organization headquartered in the Bagerhat district. READY was established in the year 2000. Since then, READY, as a Non-Government Organization (NGO) has been implementing different development projects in different districts of southwestern Bangladesh.

READY managed different donor-funded projects including Specific Pathogen Free (SPF) shrimp distribution and semi-auto feed mill establishment of USAID funded Aquaculture for Income and Nutrition (AIN). WASH project of Qatar, and Community-based Osmosis Filter establishment of JICA, youth development events of Youth Development Department of GoB, Sustainable Energy Development (SED) of GIZ and community-based health improvement of Red Crescent are important. READY has also formed different cooperative committees by taking registration of the Cooperative Department of GoB to develop fish farmers, fish nursery owners, and fish fry traders in Bagerhat district. READY has been maintaining strong networks among the fish stakeholders to match the continuous growth in the aquaculture sector in southwestern Bangladesh.

READY established three nurseries by its own fund operating in Bagerhat district. It has also two OSSC and business linkage with Afil group and the Padma Feed Limited. Through the developed

database READY has a plan to communicate with the farmers and further continue business with win-win situation.

5.2 Annex 2: Case Story-1

Double profit in G-3 Rohu culture

Md. Farukuzzaman, Hatchery owner, of Fahad Hatchery, Khamarpara, Chanchra, Jashore has gone first G-3 breeding this year in 2023. He realized that the potential growth performance in 2020 after one month of cultivation of Generation-3 (G-3) Rohu as a trial farmer of WorldFish with the fingerlings of 82 nos. of G-Rohu, 82 nos. collected from Padma and Jamuna river sources, and 82 nos. of fingerlings collected from hatchery. It grew dream in mind of breeding of the species. He collected also some fingerlings from Rupali Fish Hatchery, Jashore to fulfill the dream. He got the fuel while READY conducted 'Business networking events between Hatchery, Nursery Owners and Seed seller/ Patilwala' event to his hatchery this year in 04 March 2023 with the participation of business clients Nursery owner and seed sellers.

Mr. Faruk applied the knowledge gained so far from the event during the nursing of the broods and went for first G-3 Rohu breeding in 27 April 2023 and continued up to the end of the July 2023. He also maintained the quality in breeding and hatching



rearing. Most importantly the customers, the nursery owners and the seed sellers. The customers repeatedly purchased spawns and Dhani from him. He produced about 400 kilograms of G-3 Rohu spawns this year. He sold all the spawns pricing BDT-2500 to BDT-6000. Customers were from the different district like, Bagerhat, Jashore, Khulna, Satkhira, Dinajpur etc.

Mr. Faruk acknowledge the contribution of WorldFish and the READY about the technology, seed support from WorldFish research center; networking and customers' info support of READY etc. During the Conducting of 'Business promotion events with farmers' and visiting the nursery owners READY endorsed the Fahad Hatchery as a reliable sources G-3 spawns and Dhani that is the glow of getting the customers, he mentioned.

Customers updated Mr. Faruk about the products growth recital and survival status. They found the excellent products performance and able to satisfy the fish farmers compare to last years of the business. Sometimes the nursery owners seek technical supports from him. He is very much delighted to response them. Means this is embedded service and exceptional compare to others business competitors.

Mr. Faruk has started the G-3 Rohu fattening program in different ponds of his farm areas. He is getting tremendous result in growth performance. Within one and half G-3 Rohu grows up to 2.7 Kilogram while the stocking weight was 1.3 grams only. He is discovering the new way of production technology that the farmers can run the business with premium than earlier.

Mr. Faruk thinks that it is almost double benefits to cultivate G-3 Rohu. Price of 3 Kg G-3 Rohu is BDT-300 per Kilogram. At the same time of cultivation G-3 will be almost 4.5 kilogram then its market price is

BDT-450 per kilogram. One G-3 Rohu fish price is BDT-20,258. At the same time, from general Rohu we will get BDT-900 (BDT-300X3 =900). Means business is above double from come to general Rohu. In the coming year, Mr. Faruk has plan to expand his business with a targeting of 1000 kilograms of spawns' production. Mr. Faruk is rearing the G-3 Rohu with low density following the 'Best management Practices' of brood rearing. He is anticipating more business networks and expansions of the product. If the traditional Rohu is replaced by the G-3 Rohu in the whole country, then the remarkable production of fish will be changed by 40% increasing.

5.3 Annex 3: Case Story-2

G-3 Rohu is creating hope

Sk. Md. Maruf, village: Baliadanga, of Fakirhat under Bagerhat district is now happy to see the tremendous growth of G-3 rohu in nursery. He noted that the villagers were very much upset about the growth of locally available Rohu. It became hardly one kilogram within a year. Hearing the news from READY Field Officer like others he attended a program on 'Business networking events between hatchery, nursery, Patilwala/seed seller' held at READY head office, Bagerhat on 09 March 2023. He was very much eagerly learned about the 'best management practices' and cultural techniques of fish including G-3 Rohu; session facilitated by READY Project Coordinator and the 'District Fishery Officer, Bagerhat'.

At that time, he was on the way of pond preparation. Mr. Maruf implemented the learning to the ponds and communicated with the hatchery owners and the READY. His first stocking of G-3 rohu spawn from the Rupali hatchery, Jashore of 8 kg in early May 2023. He found marvelous growth performance and starting selling the products after 28 days rearing. Price is 1200 tk/kg (0.33 gm each). Total sold BDT-172,000 (144 kg). Same time he stocked to another ponds 70 kg pricing BDT-84,000 for further rearing and selling.



Present size of first lot G-3 Rohu increased up to 12.5 gm each. He sold 37 kg pricing 300 Tk/kg. Total sold amount is 11,100 from the second pond. And from the 1st pond sold 41 kg of amounting BDT-12,300. Till to date from 1st lot he sold BDT-195,000. And present stock of 200 kg.

Next time, found more comfortable price and business dealings. He is passing very busy business time continuing the nursery and selling the fingerlings. Till the date he bought 24 kg of spawns and culture is continuing.


Mr. Maruf is very much delighted while talking with the READY. This is the new arena of making the business with handsome profit. He said, 'I am doing the nursery for about 10 years. I never noticed this type of production like this year of G-3 Rohu. By this time people are come for Dhani, fingerling size fish of this species. Demand is created by the programs of READY and also by one to one where I sold'. It is not now not limited to my village, even my district. Customers are also coming from Khulna districts also.

The family members including the wife and son are assisting him cordially through caring, feeding, netting, selling etc. the products of the enterprise.

He is planning to stock as much as possible for over wintering as the demand of this fish will be more and more in coming year early in February and March. He will expand the stocking to all his gheras of 44 bigha.

He is planning to stock as much as possible for over wintering as the demand of this fish will be more and more in coming year early in February and March. He will expand the stocking to all his gheras of 44 bigha. Mr. Maruf and his Wife said," we never got this type of profit during the past 10 years' of experience of nursery. We will continue this G-3 Rohu nursery and culture up to our life span. Thanks WorldFish, Thanks READY".

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