



Photo by: Md. Rabiul Ahasan

Feed the Future Bangladesh Aquaculture and Nutrition Activity

Quarterly Progress Report: April – June 2020

July, 2020

Executive Summary

The aquaculture and nutrition activity has been seriously constrained by the COVID-19 lockdown.

The first confirmed case of COVID-19 in Bangladesh was on 8 March 2020, a series of nationwide lockdowns began just before the start of this reporting period (on 26 March), and these have run almost continuously up to the time of this writing.

The lockdown has caused the fisheries sector in Bangladesh many problems. The restricted movement of vehicles, road closures, blockages, and check points prevented farmers from selling fish and buying inputs which resulted in lost revenue as well as reduced production of spawn, fry, fingerlings, and foodfish.) Issues in aquaculture services, access to inputs, delivery of goods, and transport to market have combined to reduce incomes and over-accumulate populations of fish in ponds and fry & fingerlings in nurseries. Some fish hatcheries are closed. The dry fish sector is totally closed.

The aquaculture and nutrition activity began a series of twice monthly telephone survey of over 100 market actors in the ZOI and ZOR to gather specific data on the impact of the lockdown. Four reports have been delivered to USAID and show that the break down of the aquaculture sector is severe with 50-80% reductions in commercial activity in the sub-sectors.

All activity offices are closed, and staff is working remotely. There have been no cases of COVID-19 among activity staff. One staffer fell ill with a respiratory issue but tested negative.

COVID-19 response was the central task of the aquaculture activity this quarter. A detailed strategy for program response featuring both mitigation and recovery efforts was sent to USAID along a corresponding budget modification (no overall increase), and the activity issued press releases, sent SMS & voice messages to fish farmers, and created posters & one-pagers.

The activity's "Corrective Action" memorandum remains in place. As a result, no new partnerships were launched this quarter. No new sub-grants were awarded.

The cyclone Amphan caused losses in the aquaculture sector in the ZOI. In Khulna and Barisal, losses are estimated at 4,051 lakh BDT, about \$ 4.7 million.

The activity began a survey / census of local service providers (LSPs trained in the previous USAID-funded activity, AIN) to assess the present circumstances and quality of 1,275 LSPs with results due in late July.

Re COVID-19

The Institute of Epidemiology, Disease Control, and Research detected the first confirmed case of Covid-19 in Bangladesh on 8 March 2020. Caseload increased day by day and by 20 April 2020, the total had reached 2,948 with 101 deaths. The government of Bangladesh (GoB) ordered educational institutions closed and declared a series of lockdowns in which it was suggested that people stay at home, restrict outdoor movement, maintain social distance, and self-isolate.

As a result, work in the aquaculture activity slowed dramatically. During this period, all aquaculture activity partners stopped group activities. Some partners tried to continue activities and support to the beneficiaries over the telephone.

By June, some field work had resumed after a two month hiatus in areas not under a specific lockdown ('red zones', as the GoB calls them). In most cases, the partners generally divide a

typically 20-member group into two smaller sub-groups and maintain social distancing.

The aquaculture activity began a series of twice monthly survey of market actors to gather specific data on the impact of the lockdown. The survey series includes telephone surveys of 100+ market actors in the ZOI and ZOR and tracks price and production changes, transportation, and market activity at in all sub-sectors. The survey tracks proxy inputs such as pituitary gland, oxygen, and ice sales to predict trends. Interviews with a range of market actors discovers coping actions and plans.

By the end of May, about six weeks into the crisis, there had been significant declines in all sub-sectors-- declines in production, in sales, in re-stocking, and in maintaining current stock. These declines are significant-- often over 50% below previous levels and rarely less than a third lower. Labor shortages are particularly serious; with lockdowns limiting mobility, there are substantial shortages of day labor across all sub-sectors in aquaculture. Aquaculture production was reduced, and household incomes are severely hurt.

By the end of June, there were some signs of easing, but these were only in comparison to the serious shocks of the first months.

This lockdown hit during the peak season for the fish business in Bangladesh, and when travel restrictions were eased on 31 May the fish business took an upward turn. Most retail fish markets started to resume near normal operations, though feed sales points at Jessore and Cox's Bazar are in covid "red zones" and remained closed. With the end of the government ban on transport services, fish seed and food fish transportation services improved notably along with travel from outer distance districts.

Average weekly fish consumption in the household from home ponds had fallen, down 58% from pre-covid levels. Women farmers' consumption has dropped from 11 kg per week to 3, and men's consumption is down from 8 kg to 5. (The 11 kg/week figure is presumably overstating the case by including family consumption to some degree. This number was obtained via different sampling method.) With the end of the lockdown, overall consumption jumped.

The monsoon season began and ponds filled as the rains yielded sufficient water for fish farming. Many farmers started their new fish crop cycles and purchasing new stock; fish seed sales increased significantly in June. Tilapia fry production, however, remained almost stopped due to a stricter seasonal nature of production.

Sales of food fish increased as more fish reached the markets after a two-month delay in harvesting. Pent up demand and the increased output of keeping larger fish in ponds have been pushing prices up.

This activity's response to the COVID-19 crisis

The aquaculture and nutrition activity adjusted very quickly to the crisis and began a program to deliver information & assistance to farmers and other market actors.

WorldFish has the active phone numbers of 116,638 aquaculture markets actors in ZOI and ZOR and sent SMS and voice messages about availability of emergency finance and about gender issues (data attached). Examples:

Do you know, due to COVID 19, Government has announced loan with 4% interest to provide working capital for agricultural sector including aquaculture? To learn more about this loan please contact nearest bank and agent banking outlets. Stay at home and frequently wash hands with soap water. Wear a mask and maintain social distancing when you are out of home.

By: USAID Feed the Future Bangladesh Aquaculture and Nutrition Activity.

Well wishes to sisters and brothers in fish farming during this pandemic. Maintaining health

and hygiene is bringing added workload to the home. Let's not the household work burden go to women only. Let's share, let's care. Father-Mother-Brother-Sister, let's do the care work and chores together.

By: USAID Feed the Future Bangladesh Aquaculture and Nutrition Activity

The aquaculture activity also issued a press release addressing an early rumor that COVID-19 could be contracted by eating farm-raised fish, particularly tilapia. This release was published 25 times across the country. Example here: <https://banglarkagoj.net/?p=8754>

The activity's Breeding Specialist maintained regular communication with hatchery owners about bio-security measures, and there was increased partner outreach by Coast, Shushilan, Prottyashi to thousands of people in both the ZOI and ZOR.

The activity distributed GoB announcements about sanitation and emergency credit to farmers and also produced new nutrition posters for distribution in all 23 districts of the ZOI and ZOR.

In addition, WorldFish proposed a two-part COVI-19 response strategy to USAID.

Mitigation actions are needed to take action on near-term, critical needs and overcome the adverse effects of the lockdown. The activity's detailed survey series, revealed priority needs in information, transportation, finance, and wet market sanitation. The activity has begun co-creation discussions with potential partners to design interventions.

For recovery of the aquaculture sector, the activity has begun designing sustainable mechanisms to rebuild better via sub-grant funded partnerships and increased direct delivery of interventions.

To implement these, activity management has requested a modification to the grant agreement and is awaiting approval at the time of this writing.

Internally, WorldFish places the highest emphasis on the safety of its staff, beneficiaries, and partners. WF follows all GoB guidance and safety measures pertaining to the COVI-19 pandemic and has instituted a comprehensive protocol regarding sanitation and social distancing. All WF offices in Bangladesh have been closed since early April with a phased re-opening beginning, possibly, in August.

For unavoidable travel-- which is very limited-- aquaculture activity staff has carried and shown the Mission Director's letter. It has proven useful with local authorities.

Country-wide, WorldFish has worked with the DoF throughout this period and published guidance in the national press. In addition, Worldfish is a member of a working group which met to work on "Keeping Food Supply Chains Open and Safe" in May. IFAD, CiMMYT, IFPRI, and FAO joined the WorldFish country Director, Chris Price, to prepare programs to demonstrate how handling, retail, and management practices can be COVID-19 safe and how markets can be safe places. They have created guidelines for food processors, traders, and market workers so that they can continue to operate safely during the COVID-19 era,

IRs, Sub-IRs, and Cross-cutting Programs

Sub-grants are currently the activity's only vehicle for delivering service; there is no direct delivery. During this reporting period no new partnership agreements were signed due to the corrective action moratorium.

IR 1. Increased aquaculture productivity

Sub-IR 1.1. Increased availability of improved fish seed

During this reporting period, three partner hatcheries implemented activities related to 'Best

Management Practices' (BMP)-- a range of operational and production matters which ensure quality production and supply of carp seeds. During April-June 2020, Rabeya Matshya Utpadan Kendra in Barisal sold 851 kg fish seeds of different 10 species of carp to 126 nursery owners and added 4644 kg new brood fish to their hatchery. Matshya Bangla Hatchery in Jhalakathi sold 325 kg seeds to 100 nursery owners and added 568 kg of new brood fish. Harun Matshya Hatchery sold 438 kg of fish seeds to 46 nursery owners.

To improve bio-security, Asa Fish Hatchery in Bagerhat, South Bay Hatchery in Khulna, and Rupali Fish Hatchery in Jessore each completed work on their laboratories. While South Bay Hatchery and Rupali Fish Hatchery collected 725 kg and 694 kg brood fish before the lockdown, Asa Fish Hatchery was unable to collect any.

For GIFT (genetically improved farm-raised tilapia) the activity finalized partnerships with both BRAC Fisheries Enterprises and the Bhola Monosex Tilapia Hatchery. The BRAC facility will be a breeding 'nucleus', and the Bhola facility will be a 'cohort breeding center'. They will work together to deliver high quality mixed sex tilapia fry as broodstock to multiplier hatcheries.

BRAC is also a partner for genetically improved carp. To ensure a sustainable brood stock of the improved varieties, a memorandum of agreement was signed in June, and 365 rohu generation-2 along with 192 catla generation-0 and 668 silver carp generation-1 were transported to the BRAC facility in Magura for care and production of fish seed for area nurseries.

At the Talbaria site, construction of the semi-portable carp hatchery is complete along with all other preparatory work to enable the first carp G3 breeding operation (July 5 to 13).

This will be the first distribution of the fast growing carp, and four nurseries in Jessore will receive the HYV strain. These fish are expected to grow 30% faster than the rohu existing in the country today. This is part of a nationwide WorldFish program in collaboration with the Department of Fisheries, Bangladesh Fisheries Research Institute, BRAC, and the Jessore Fish Hatchery Association.

The Office of the Director General of the Department of Fisheries hosted a meeting on the dissemination of improved rohu (*Labeo rohita*) in June with Director General Quazi Shams Afroz, Deputy Director Md. Sirajur Rahman, Md. Nawsher Ali, and WorldFish in attendance. WorldFish described the plan for dissemination of improved rohu in Bangladesh using previously shared data references for the technical discussion. (attached one-pager)

During this quarter, the activity also finalized the details of a partnership to bring G3 carp to market. Tentatively branded 'HYV carp', the marketing of the product is being planned by a Dhaka firm called MWorld. The program will guide phased expansion of HYV sales throughout the ZOI during the coming year.

Sub-IR 1.2. Increased availability of affordable quality feed

Two significant grantees under this sub-IR, Spectra Hexa and Victor Feeds, Ltd., completed their interventions as per the work plan and phased out their partnerships with BANA. Spectra and Victor tested variations of Local Service Provider (LSP) involvement and how improved technical assistance can increase sales of feed and improve on-farm performance.

Victor Feeds provided extension services using an LSP model by establishing 14 service centers and 53 sub-service centers. They have conducted capacity building training for 464 market actors such as dealers, sub-dealers, associations, and business groups this quarter. Spectra works through Mega Feed Schools at LSP locations.

Co-creation moved ahead well with another partner, KNB Agro Industries, who will focus on improving feed performance by reducing pellet size and proving effectiveness by doing trials of different formulations in ponds with a group of lead farmers. KNB expects their LSP model to achieve greater outreach and improve on-farm performance.

An older partnership continues to bring results. ACI reports that "the Rupali app has passed 50,000 subscribers", a digital platform for the aqua-farming community.

Sub-IR 1.3. Increased adoption of improved pond management practices

To improve farm output, BANA has four active sub-grants under this sub-IR: FishTech, GreenDale, United Agro Fisheries, and Eon Animal Health Product Limited.

United Agro Fisheries (UAF) is building a business to supply natural carp pituitary glands (PG) domestically to replace chemical variants and imports to ensure quality fish seed production at the hatchery level. Before the lockdown, UAF made a video to promote their product among hatchery owners, traders, and other stakeholders such as DoF and BFRI. Since the lockdown PG prices have increased four to five times as imports stopped, and UAF continues to operate at capacity.

The aquaculture activity is now engaged in active co-creation discussions with hatchery groups to find a model for rapid start-up of small scale PG producers to meet the demand for this critical input.

FishTech is strengthening aquaculture service by establishing a private fish health lab in Khulna to serve fish and shrimp hatcheries as well as the larger commercial farms throughout the central ZOI. However, the partner could not complete set up of its Aquatic Animal Disease Diagnostic Laboratory due to the COVID-19 pandemic. Considering the necessity of rearranging the work plan, BANA approved a three month no-cost extension (NCE) to enable FishTech to complete their program. The budget has also been modified to replace some old lab equipment.

A partnership with EON Animal Health started in February to strengthen aquaculture services for smallholder farmers through proprietary retail points and existing distribution channels (a vertical integration model) in 32 Upazilas in seven ZOI districts but has not begun due to the COVID-19 situation. The prognosis for this partnership is not clear.

GreenDale was also unable to perform during this quarter. Greendale is introducing 'GreenDale Service Centers' (GSC) to provide training and technical assistance to fish farmers in the ZOI as its variation on the LSP model.

The activity has been working for two years to address the problem of tilapia lake virus (TiLV) which is reportedly affecting farmed tilapia in 16 countries across multiple continents and during this quarter completed an important paper on the subject (attached).

Following an early warning in 2017 that TiLV might be widespread, the activity executed a surveillance program at tilapia grow-out farms and hatcheries in ten districts of Bangladesh in 2017 and 2019. Among farms experiencing unusual mortality, eight of 11 farms tested positive for TiLV in 2017, and two out of seven farms tested positive in 2019. With continued research, this study revealed circulation of TiLV in 10 farms and six hatcheries in eight districts of Bangladesh. We recommend continuing TiLV-targeted surveillance efforts to identify contaminated sources to minimize countrywide spread and severity of TiLV infection.

IR 2. Strengthened aquaculture value chains

Sub-IR 2.1. Increased market linkages

In this quarter the activity closed its only active partnership. The partnership with Pranti ended prematurely when irregularities in procurement were discovered, and activity management ended the partnership agreement a month early. The partner has promised to return the disputed amount.

Moving ahead, the activity finalized details of a partnership to improve the image of farm-raised tilapia. Gorai Films will popularize tilapia through media engagement with popular Bangladeshi

celebrities, conduct social marketing campaigns, and create an identity / certificate for quality, healthy tilapia.

The surveys assessing the impact of the lockdown show very serious disruption in all phases of transportation. The lockdown has exposed the fragility of this system. In aquaculture, distribution and transportation are handled by small market actors and independents. Major food companies do not participate.

The aquaculture activity is working with established food distribution companies to build a safe distribution solution in aquaculture value chains to ensure business continuity of input and forward market actors and demonstrate safe transportation practices in the fish value chain to diminish virus exposure. Shohoz, Direct Fresh, MarGen, and Parmeeda Enterprises are engaged in co-creation discussions with the activity's market systems development team.

Shohoz is a national transportation solution agency which will work to build connectivity between fish farmers and end consumers through detailing an 'end-to-end' collection and delivery service. Another e-commerce business, Direct Fresh will implement a similar "Farm to Fork" model to improve the supply chain for multiple fish varieties. MarGen and Parmeeda will focus on growing online sales platforms for fish sales and increase aquaculture demand in both business to business and consumer markets and work to promote an image of safe fish production and consumption.

These partnerships are expected to become effective from August 2020.

Sub IR 2.2. Increased engagement of private sector in aquaculture markets

At present, the activity has one active partnership (Bank Asia) and in this quarter has finalized partnerships with four others (City Bank, JITA, iSocial, and Energaia).

Bank Asia's activities have been slowed by COVID-19, and the activity has agreed to a no-cost extension. Bank Asia revised its activity plan and started following the 'small-group' approach to comply with COVID-19 protocols. This partner returned to field operations on a limited scale in the last week of April 2020 as retailer onboarding resumed, and in this reporting period 40 retailers received smartphones and orientation on the app. 40 farmer meetings were organized, 331 new accounts were opened, and 281 new loan applications were completed.

The aquaculture activity has agreed to a new partnership with City Bank. The sector is facing a serious liquidity crisis due to the suspension of loan advances from lenders and the commercial banks. Many small operators are taking loan from their relatives, neighbors, and informal sources to continue their business. For operating capital, seasonal credit to farmers has been common in this sector, but this practice has largely shifted to cash transactions due to low harvests and lower market prices for table-size fish. Feed dealers often buy on credit, but this is changing as low sales and lower demand for feed have reduced incomes and cash at the dealers; many are facing problems repaying existing credit from the companies. Almost all sub-dealers must now purchase in cash rather than on credit.

The City Bank partnership will mobilize 72 crore BDT in new loans-- \$8,470,000 in new lending to small aquaculture enterprises. The lending activity becomes profitable for the bank in the sixth month, and the bank expects to break even on this by the 14th month of operation; the lending operation does not become profitable for an additional year and, as such, without support from the aquaculture activity, it is not a viable venture for the bank.

Two new partnerships to implement women's micro-franchises in aquaculture were finalized this quarter. iSocial and JITA Bangladesh each have strong experience creating employment opportunities for women through a last-mile distribution model. The partnerships are expected to onset from August 2020.

EnerGaia is the fourth new partnership and will support new women's businesses in production and sale of the microalgae *spirulina*. Pre-award field due diligence for this partnership has been paused due to the movement restrictions and will resume once the situation improves.

Sub IR 2.3. Improved enabling environment for inclusive growth in aquaculture

Currently, there is one active sub-grant activity under this sub-IR, with the Bangladesh Shrimp & Fisheries Foundation (BSFF). However, no activity was reported for this partner due to the lockdown ban on group gatherings.

Traceability is an important aspect of food safety, and the activity finalized a partnership with an Indian firm, ByteAlly, this quarter to implement a large scale field demonstration of a pond to plate food traceability system using blockchain technology in aquaculture. The partner will install a system within the aquaculture activity's HYV Carp market launch as a controlled trial and demonstration beginning in July.

In COVID-19 response, the activity is forming a consortium to implement a digital advisory service for aquaculture market actors. The program will deploy a two-way digital communication platform for farmers to provide information and business support services. Three media and data firms (Right Kind, mPower, and Source Trace) have joined the aquaculture activity to prepare a comprehensive business plan for the service. This leverages WorldFish's work on this subject funded by the Gates Foundation and will begin in mid-August.

IR 3. Improved nutrition related behaviors in rural households

The activity engages nutrition stakeholders in the GoB, INGOs, local NGOs, and various UN organizations. Regarding COVID-19, the general sense is a "nightmare scenario"; the Needs Assessment Working Group reports that about 75% of their survey respondents are without sufficient access to food at home and almost 66% people think that closed markets as the main challenge.

The study by the working group shows that 42% of respondents say hygiene materials are not easily accessible, about 48% are using safely managed drinking water services, 75% have hand a washing facility with water and soap, and almost 65% use of "basic sanitation" services. Soap and detergents are somewhat available in the market but, there is a shortage of sanitizer and face masks.

During this quarter, Shushilan conducted 151 sessions of community level farmer training on aquaculture, intra-household food distribution, nutrition, and the inclusion of women, men, and youth in household chores (2,170 attendees). These trainings were arranged with appropriate social distancing. They also organized 153 Shushomoy group meeting (follow up meeting of farmers at the ward level) and Shushomoy union association meeting.

Sub-IR 3.1. Improved nutrition awareness and practices

Under this sub-IR one NGO, Shushilan, is working to implement nutrition sensitive aquaculture activities.

During the lockdown Shushilan communicated with farmers through mobile phone and online platforms (facebook messenger, IMO, whatsapp). Their messages included staying at home, maintaining physical distancing, wearing masks, washing hands with soap and water for 20 seconds, and the need to contact a hospital immediately if symptoms appear. Importantly, they also communicated contact information for health care providers.

Shushilan distributed 3,060 face masks in four upazilas and 1,300 bars of soap. Working with local ward committee leadership and union committee members, the partner received and distributed 5-10 kg rice and one kg potato to 526 poor farmers, payments of 2,500 BDT and 5,000

BDT each to 50 poor farmers, and hand sanitizer and face masks to 915 families from local government.

Shushilan resumed its aquaculture field activities on June 1 after more than two months of lockdown. The contract with Shushilan has been extended through August 31, to allow completion of delayed field activities (NCE).

The Shushomoy union associations each include two representatives from each ward group and are the main platform to make the project activities sustainable. 16 union meetings were organized with 277 total participants. Topics included the first 1,000 days, important messages on COVID-19, farmer to farmer distribution of orange sweet potato (OSP) vines, and sustaining project outcomes

Partner staff also managed to communicate with 47 dealers and input sellers this quarter and created linkages with 123 farmer group leaders in four upazilas.

The aquaculture activity also re-edited a video on fish chutney in Bangla and English to be shared on social networking platforms to sensitize people in eating fish chutney as a concentrated source of protein and essential micro-nutrients. The team also produced four posters in Banlga about nutrition during lockdown and disseminated them digitally among partners in all 23 districts for printing and distribution (10,000 pieces).

Sub-IR 3.2. Improved access to diverse and nutritious foods

Shushilan distributed 1,643 orange sweet potato (OSP) vines to non-project farmers to increase the cultivation coverage and production of the nutritious tuber. The farmers harvested almost 25 tons of OSP which market value of 627,250 BDT (~\$7,400). The farmers consumed about 60% of these OSPs in their household and sold or gave the rest to their neighbor and relatives.

The aquaculture activity is in discussions with the World Food Program (WFP) about their school feeding program. The GoB is hoping to feed all primary school children by 2023 through mid-day school meals, and the activity sees this as an opportunity to place fish into children's diets. Discussions center on a possible pilot project, probably in Cox's Bazar, to act as a demonstration of what is possible so that WFP and BANA can recommend that the GoB replicate the approach more broadly. Almost 15 million children are targeted by the GoB by 2023.

Cross-cutting Program Areas

Gender

In response to the COVID-19 crisis, the aquaculture activity sent two SMS messages on gender issues to the WorldFish list. The first was about sharing the burden of increased work around the house in pandemic situation and men's and boy's engagement, and the second was about maintaining a spirit of togetherness in the family and understanding each other to prevent and resolve conflicts.

In this quarter, the partnership with Barind Media, Ltd., (Duranto TV) completed production of the 26-episode series, *Mechho tota and Gechho Voot*, an animated show on gender and nutrition awareness. The show began airing on April 17 with a target audience of children and their parents. Two 20-minute episodes are broadcast each week, and by the end of June, 22 episodes had aired.

The average audience is 1.055 million people per episode. There have been an average of 8,049 associated facebook postings, and an average of 26,229 SMS responses to each show. Duranto keeps good records, and the post-show SMS quizzes have brought over half a million unique participants.

The objective is social behavior change of the audience regarding fish consumption and attitudes toward gender equality inside messages about nutrition of children under two, pregnant and lactating women, and adolescents. Hygiene practices have also been highlighted.

Youth

The positive youth development effort of the aquaculture activity has led to a good response from young aquaculture entrepreneurs.

18 applications were received in response to a call for applications and outreach to area universities. Students who have and are studying in the aquaculture and fisheries sectors were invited to present their ideas for small businesses. Of these 18, two were selected for small grant funding. One is about providing quality inputs and expert guidance to aquaculture market actors, and the other is about establishing small scale fish culture systems in urban areas and bring the production to market.

Environment

As part of the environmental due diligence (EDD) process the activity is working to ensure that none of the partner activities leave negative impacts, and during this quarter ten more EDDs were completed.

Two integrated guidelines have been drafted on safe fish feed and carp seed production, and the integrated guideline on safe tilapia seed production was completed this quarter. The focus of these guidelines is to bring together guidance on fish health, bio-security, traceability, worker safety, hatchery sanitation, and other environmental issues into single volumes.

The Zone of Resilience

In the ZOR, four sub-grant activities are in operation with NGOs: Coast Trust, Protyashi, Graus, and Tahzingdong.

During the lockdown, Coast staff is keeping in contact with 1,985 farming households via cell phone to deliver timely information on fish harvesting, summer vegetables planting, and the importance of hygiene practices to prevent spreading of COVID-19. Staff also communicated with 622 dry fish entrepreneurs and discussed their dry fish production problems-- there is no dry fish production. Between the lockdown and the cyclone Amphan, Cox's Bazar has been a red zone, and most farmers have not been able to stock fry or fingerlings in their ponds at all.

Protyashi was able to conduct 14 batches of training on family hygiene and hand washing for cleanness for 274 participants in Cox's Bazar. Each session was divided into small groups of 5-6, and health cautions were maintained to prevent the spread of COVID-19. Protyashi developed and distributed three communication pieces: on mola-carp polyculture and vegetable cultivation on dykes (5,000 copies), Kuchia farming (2,500 copies), and fish nursery management (2,500 copies). These were distributed to fish farmers and DoF officers. Protyashi has received a no-cost extension for two months (through 14 July).

GRAUS staff was not allowed to travel at all in Bandarban and so communicated over the telephone with 908 fish farmers. Of these, 314 have completed pit preparation in their pond dykes, and all area nursery farmers have completed their pond preparation and are ready to stock new spawn. GRAUS also disseminated the government circular on the movement and transportation of agricultural products issued by the Ministry of Fisheries and Livestock to 259 beneficiaries.

Tahzingdong provided summer vegetable seeds as input support to 495 fish farming households in Bandarban (427 who are culturing fish in ponds and 68 collecting from creeks). Each participant received five types of vegetables seed to improve nutrition for children, pregnant women, and lactating mothers. Tahzingdong also communicated with 1,333 beneficiaries to

provide guidelines on pond preparation and stocking fingerlings. 505 of these have completed pond preparation and are ready to stocking fingerlings in their ponds, and 19 fish farmers have completed stocking.

Project Management

WorldFish selected Deloitte-Bangladesh to perform an external audit of BANA, but with the office closed and all staff working remotely, we intend to start the audit in the last quarter of this year.

Internally, continuous improvement of partner and sub-grant management is a rule. This quarter, BANA introduced the airtable database system (airtable.com) to keep all communication and documents in a single, accessible tool. All staff were trained on its use this quarter, and proper, diligent use of airtable is now a job performance requirement.

In addition, the activity has added a group chat for daily partnership management. Using MicroSoft Teams, the finance & grants unit and the market systems unit now communicate directly on all questions related to partnerships rather than relying on email. This direct message system should improve information flow and document completion.

The activity also introduced a new, expanded due diligence checklist this quarter. Partner assessment tasks are now consolidated in one 11-page guide for pre-award site visits. This document is kept in each partner file.

Grants and Finance

The activity utilized a total of \$941,989 for the third quarter of year three. This is 18% lower than the previous quarter due to reduced activities caused by the COVID-19 lockdown and delayed approval of new sub-grant agreements. Total accumulated expenses were recorded at \$9,384,411 which leaves an available budget balance of \$15,073,781 as of June 30, 2020.

The activity has signed thirty three sub-grants to date with a total value of \$5,286,381 including sub-grantees' cost share. Among these thirty-three, eleven have closed and three were terminated. An accumulated actual expense of \$2,583,109 was recorded as of June 30, 2020. There were no additional sub-grant signed within this reporting period. In the pipeline, we have fourteen new proposals with a total value of \$2,477,309 (including sub-grantees' share). We also shortlisted four sub-contractors with total value of \$302,877 that are now waiting for USAID's approval.

| Activity | LOA Budget in USD (Feb '18-Jan '23) | Year 1 Actual in USD (Feb-Sep '18) | Year 2 Actual in USD (Oct '18-Sep '19) | Year 3 Actual in USD (Oct '19- June'20) | Cummulative Expenses as of June 30,2020 | Budget Balance as of June 30, 2020 |
|---|--|---------------------------------------|---|--|--|---------------------------------------|
| Direct labor | 5,474,565 | 414,022 | 926,710 | 807,578 | 2,148,310 | 3,326,255 |
| Fringe benefits | 1,765,430 | 131,311 | 294,843 | 282,987 | 709,141 | 1,056,289 |
| Consultants | 288,593 | - | 70,998 | 58,311 | 129,309 | 159,284 |
| Supplies, Equipment and Operating | 1,570,245 | 153,671 | 478,943 | 173,790 | 806,404 | 763,841 |
| Travel and Per-diem | 419,507 | 51,841 | 206,295 | 95,474 | 353,610 | 65,897 |
| Other Direct Cost (Activity) | 2,753,016 | 112,324 | 695,954 | 258,791 | 1,067,069 | 1,685,947 |
| Sub grants | 8,049,508 | - | 1,274,492 | 1,308,617 | 2,583,109 | 5,466,400 |
| Total Direct Cost | 20,320,864 | 863,169 | 3,948,235 | 2,985,548 | 7,796,952 | 12,523,913 |
| Indirect Cost | 3,657,756 | 155,370 | 710,682 | 537,399 | 1,403,451 | 2,254,304 |
| CGIAR Sharing fee (@ 2% of total direct + indirect cost) | 479,572 | 20,371 | 93,178 | 70,459 | 184,008 | 295,564 |
| Total Activity Cost | 24,458,192 | 1,038,910 | 4,752,095 | 3,593,405 | 9,384,411 | 15,073,781 |

Monitoring Evaluation and Learning

At the outset of the lockdowns, the MEL unit developed a contingency work plan to use a virtual communication platform (MS Teams and mobile) to communicate with farmers, market actors, and stakeholders to collect regular monitoring data and complete surveys.

The aquaculture activity has conducted a series of surveys of aquaculture sector market actors to assess the impact of COVID-19 pandemic and associated lockdown on all aquaculture sub-

sectors. The surveys show trends as well as actual changes in production, sales, prices, transportation, market activity, buyers, and more. Complementary interviews have discovered coping actions and learned about recovery plans.

The activity has delivered four survey reports to USAID and other stakeholders to date.

Due to the lockdown, partners stopped almost all field-level activities in April and May, but some resumed activities in June on a limited basis and with proper precautions. A total of 165 training events were held with 2,970 participants reached were recorded during the reporting quarter. The MEL team continued its data quality assessment via phone and desk review this quarter, and 22 training events were monitored with observations shared among the activity's program staff and the partners.

In addition, the MEL unit began a survey / census of local service providers (LSPs trained in the previous USAID-funded activity, AIN). The survey will assess the present circumstances and quality of 1,275 LSPs with results due in late July.

The knowledge management (KM) & CLA platform was shifted to an MS Teams Channel for easier access by activity staff and is being updated regularly. The KM unit continues to organize virtual learning events for staff working remotely.

The aquaculture activity is finalizing an integrated mobile app to bring GIS navigation, MIS, CLA, and survey systems into the existing MIS platform. The work began in June, and GIS data visualization and an interactive results dashboard will be ready for year four.

Communications

COVID-19 response was the central task of the aquaculture activity's communications work this quarter. The activity issued press releases, sent SMS & voice messages to over 100,000 aqua-enterprises, created new posters (sample attached), and distributed 10,000 one-pagers via partners. A couple samples:

- Facebook posting by USAID
 - The government of Bangladesh has announced an emergency loan fund for small farmers in response to the economic fall off due the lockdown. USAID's Feed the Future Bangladesh Aquaculture & Nutrition activity sent details to over 32,000 small scale fish farmers via both SMS and voice mail. The first messages in a new, rapid info advisory service.
- SMS text and voicemail sent to 116,638 aquaculture enterprises
 - The government of Bangladesh has started providing loans at 4% interest to all those involved in Fish Farming. You can also be covered by this loan facility. Contact your nearest scheduled bank/Agent bank today to get this loan. (sent in Bangla)

The aquaculture activity also issued a press release addressing an early rumor that COVID-19 could be contracted by eating farm-raised fish, particularly tilapia. This release was published in 25 newspaper across the country and widely shared on social media. This is attached in English, and a Bangla example is here: <https://banglarkagoj.net/?p=8754>

Some regular program activity continued as two new partnerships were finalized. Rohita Advertising will publishing a new syndicated column on aquaculture and nutrition, and BackBenchers Communications will present messages about nutrition via community radio to show "how to become a successful fish producer, the nutritional value of fish, and how fish producing can be a great business." Some other regular program activities were disrupted by the lockdown; a media tour to address unfounded rumors about farm raised tilapia and hormone treatment was canceled as was a food traceability forum.

Activity Description

The USAID Feed the Future Bangladesh Aquaculture and Nutrition Activity (BANA) is intended to foster sustained, positive aquaculture sector growth through an inclusive market systems approach. BANA is a five-year PIO activity (2018-2023) implemented by WorldFish with funding of \$24.5 million. Of this, \$8 million is reserved for sub-grants. BANA sustainably improves the livelihoods of fish farmers and other aquaculture market actors by applying a market systems approach through which BANA joins with the private sector to identify solutions to systemic obstacles and the partners then test the solution via activities funded through the sub-grants and significant co-funding. BANA focuses on improved nutrition through more productive aquaculture and has strong cross cutting elements of environment, youth, and gender which are inculcated into sub-grantees.

Activity Goal, objectives, and Targets

BANA's goal is to achieve inclusive aquaculture sector growth through a market system approach. The objectives are:

- Increased productivity of aquaculture production systems.
- Strengthened aquaculture market system, with particular attention to expanding opportunities for women and youth.
- Increased awareness and adoption of nutrition-related behaviors, with a particular focus on women and youth.

Life of activity targets are:

- 400,000 men, women, and youth in the ZOI have improved access to better quality aquaculture inputs, services, and/or market channels
- 30% expansion of investment by the private sector in the ZOI in aquaculture production and market related to inputs and services (e.g., seed, feed, production/ market related information, technology, etc.)
- 30% increase in productivity from ponds and ghers in the ZOI
- 20% increase in the number of households adopting improved nutritional practices (consumption of nutritious food, dietary diversity and hygiene practices)

The Market Systems Approach

BANA uses a market systems approach to achieving its objectives. In this approach to development, there is no direct delivery of services, but rather the intent is to discover and replicate practices which overcome obstacles to lasting improvement. These obstacles might lie in any aspect of the aquaculture industry-- in fish health and feeding, certainly, but also in transportation, finance, or marketing.

The market systems approach understands that both the causes of and solutions to market obstacles are known to the market actors. That is, farmers want to grow more food, people want higher incomes, and processors want to reach new customers, but they face difficult challenges. They might have tried to overcome the challenges and fallen short or they have never tested possible solutions for lack of resources. Virtually all program activities are done through partnerships with private sector enterprises and professional associations. In the ZOR, however, there are few private partners with sufficient capacity to engage in USG funded activities so most of BANA's work in Cox's Bazar and Bandarban is done through conventional sub-grants to NGOs.

Geographical Focus

BANA works in the Bangladesh Feed the Future Zone of Influence (ZOI, consisting of 21 south-western districts) and the Zone of Resilience (ZOR, two districts in the southeast affected by the Rohingya situation).

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Acronyms

| | |
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| BANA | Bangladesh Aquaculture and Nutrition Activity |
| BDT | Bangladesh Taka |
| BFRI | Bangladesh Fisheries Research Institute |
| BMP | Better Management Practices |
| BSFF | Bangladesh Shrimp and Fish Foundation |
| CGIAR | Consultative Group of International Agricultural Research Centers |
| CLA | Collaborating, Learning, and Adapting |
| CoP | Chief of Party |
| DCoP | Deputy Chief of Party |
| DoF | Department of Fisheries |
| GIP | Genetic improvement program |
| GSC | GreenDale Service Centers |
| GIS | Geographical Information System |
| ICT | Information, Communications Technology |
| IR | Intermediate Result |
| LSP | Local Service Provider |
| MEL | Monitoring, Evaluation and Learning |
| NCE | No-cost extension |
| NGO | Non-Government Organization |
| OSP | Orange Sweet Potato |
| SBCC | Social and Behavior Change Communication |
| USAID | United States Agency for International Development |
| ZOI | Zone of Influence |
| ZOR | Zone of Resilience |