

Fish for Livelihoods Newsletter

Issue 7, April - June 2021

Fish for Livelihoods:

The United States Agency for International Development (USAID) funds the Fish for Livelihoods *Activity* which aims to increase fish production, labor productivity, food availability, and fish consumption especially for women and children from vulnerable households. It provides opportunities for entrepreneurial activities in small-scale aquaculture (SSA) systems and promotes social behavioral change messages that direct home production and market purchases towards nutritious-conscious household decisions.

Fish for Livelihoods is being implemented in five inland states and regions in Central and Northern Myanmar: Mandalay, Magway, Sagaing, Shan, and Kachin for a period of five years (October 2019 – September 2024). The project primarily targets small-scale aquaculture households (with small ponds <1 acre) and associated value chain actors. The project targets at least 10,000 individuals, mainly pond farmers and fish value chain market actors over 5 years of the project.

Project Anticipated Results:

Inclusive and sustainable aquaculture growth to improve nutrition and food security especially for reproductive-age women and children under five in central and northern Myanmar.

IR 1: Production. Small-scale aquaculture production increased through improved and land and water use and increased access to information, high-quality inputs, and credit.

IR 2: Increased access to food-safe fish and fish products in the markets. Access of Small-scale Aquaculture (SSA) farmers to domestic markets increased and a consistent supply of food-safe fish and fish products was ensured.

IR 3: Improved nutrition, food safety, and WASH. Improved diet diversity and consumption of safe fish products and increased access to WASH packages especially for women of reproductive age and children under five.



Figure 1. A group of female participants attending a Nutrition event with cooking demonstration at Haelone village, Inlay Lake.

A. Capacity Development Initiatives for the Small-scale Aquaculture (SSA) farmers:

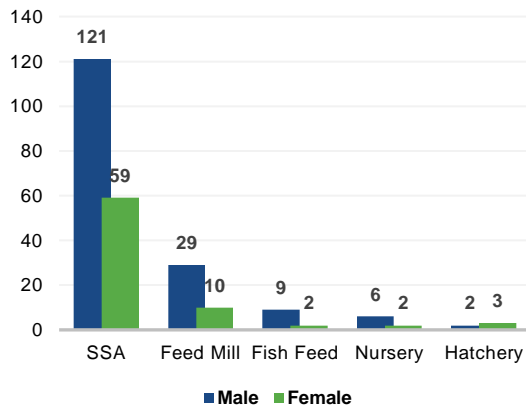


Figure 2. Numbers of SSA farmers (male and female) received training during the quarter.

During the quarter, the “Fish for Livelihoods” *Activity* has delivered a range of training sessions to SSA farmers. In aggregate, 243 (Male=167, female=66) SSA farmers received training under capacity building initiatives across *Activity’s* intervention areas. The training sessions were conducted on SSA (pre-stocking and post-stocking management), hatchery and nursery management, and fish feed and feed mills installed with the support of the *Activity* as seen in the figure-2. The maximum participants, 180 (74%) were trained in SSA whereas only 5 (2%) participants received facilitation on hatchery management. The details of all training sessions can be seen in forthcoming paras.

1. Face-to-Face SSA Training to the Hatchery farmers in Nyaung Shwe township, Southern Shan: The WorldFish field team conducted in-person training sessions of key messages on SSA to two (02) hatcheries on April 20 and 23, 2021 in Nyaung Shwe township. A total of five (05) participants (Male=2 and Female=3) have attended the training. The training delivered

was meant to replicate hatchery customers. This activity distributed SSA pamphlets to hatcheries and their owners will further share with their customers. In addition to the SSA key message sharing session, the field team trained hatchery owners on how to check water quality (pH, ammonia, and oxygen) with the test kits provisioned by the Activity, “Fish for Livelihoods”.

The hatchery owners will share SSA knowledge and distribute pamphlets among their customers. With this, the Activity will reach more indirect beneficiaries through hatcheries – a key milestone set in the current year, and even beyond this capacity building initiative and provision of test kits, hatchery owners know how to measure water quality. The test kits are valuable for future water quality management that will result in better-quality water and an increase in production.

2. Face-to-Face Small-Scale Aquaculture (SSA) Training to the farmers at His Hseng township, Southern Shan:

The SSA and nutrition modulated training (modules 1 and 21) was conducted in Hsi Hseng township, Southern Shan state on April 27, 2021 as shown in figure-3. A total of 24 (Male=18, Female=6) new project participants and 05 (Male=1, Female=4) indirect beneficiaries had attended the training session. The participants gained knowledge on SSA, Nutrition, WASH, and dike cropping system and clear guidance to practice better management practices (BMPs) in the field. With this increase in knowledge, farmers will practice better fish farming compared to the previous years where the farmers have been practicing their traditional knowledge with outdated methods and lesser or no use of modern technology.

¹ The *Activity* delivers training sessions on three modules; Pre-stocking management, post-stocking

management, BMPs, and post-stocking management (harvesting, linkages with the value chain actors)



Figure 3. SSA Farmers listening to a facilitator at a community hall in His Hseng township, Southern Shan.

3. Small scale aquaculture (SSA) training sessions to the farmers in Nam Sang township (in person): To enhance the capacity of the farmer in SSA businesses, SSA, and nutrition, module 1 training was delivered to five (05) villages; Naung Bo, Naung Hsant, Ward-4, Mine Seik, and Ahmat-5 in Nam Sang township. These sessions were delivered on May 14, 17, 20, 21, and 24, 2021 respectively. A total of 156 (Male=103, Female=53) SSA farmers attended and completed the training sessions. Despite instability and a deteriorating political situation in Myanmar, the face-to-face training sessions were delivered successfully. The Activity provided SSA training to newly identified farmers, and with that, they received clear guidance on how to administer better management practices (BMPs), knowledge on human nutrition, and pond dike cropping systems. The enhanced knowledge and techniques attained via training sessions, when practiced well, will positively impact farmers and result in increased production from fish ponds. The latter will result in diverse and balanced diets by including more fish and vegetables in daily diets. A glimpse of the session can be viewed in figure-4 below.



Figure 4. A trainer delivering session to SSA farmers on pre-stocking management in Nam Sang township.

4. Feed Mill training to the Farmers in Salin and Ngape Townships, Magway and Wetlet Township, Sagaing Region:

On 8 June 2021, the field team tested the feed mill that was installed with the support of the *Activity* and, delivered a feed mill training session at Tamar Chaung village, in Salin on 9 June 2021. 14 farmers (Male=12, Female=2) attended the training session. On June 11, another session was delivered at Chaung Phyu village in Ngape. Eleven (Male=10, female=1) farmers attended the training session. In aggregate, 25 (Male=22, Female=3) farmers were provided with training support on feed mill use.

On June 23-24, 2021, a WorldFish field team member conducted feed miller training in Kone Gyi Village, Wetlet township, Sagaing. 14 participants (Male=7, Female=7) from the village attended the training session. On the first day of the training, the facilitator and participants installed a feed milling machine and carried out a test run. On the second day, the trainer trained and demonstrated how to choose quality raw materials, which are available in the local market (rice bran, dried fish powder, peanut cake, cassava, salt, etc.), and how to mix raw materials to get the required protein percentage, i.e., 25%. A practical demonstration on how to mix raw materials for pelleted fish feed can be seen in figure-5.

Despite the challenging situation in the country, the face-to-face training sessions were delivered successfully, with the farmers participating interactively. The *Activity* provided feed mill training to all participants for the first time in the Magway region. The farmers received clear guidance on how to

identify and choose the feed, the important role of feed for the fish growth rate, size of the feed, raw materials for the feed, percentage of protein in raw materials, protein % calculation in the feed, management of the feed mill, storage of the feed, Feed Conversion Ratio (FCR), and testing the feed quality. The feed millers also learned technical aspects of feed and its composition.



Figure 5. Farmers practicing during training session on how to mix raw materials and ingredients to make quality sinking pellet fish feed in Wetlet township.

When the fish feed is produced within the local community and is easily accessible to farmers, fish farming in the intervention areas will become sustainable in the long run. This will reduce the dependency on commercial fish feed. This machine installed can only produce a sinking pellet. The strength of this machine is; fish feed will be produced with locally available raw materials these are available nearby. The cost to produce one Viss (1.64 kg) of sinking pellet feed using locally available raw materials with the provided machine is 950 MMK per Viss [USD3.60 for 10Kg]. In the local market, the feed mill farmer can sell a Viss of sinking pellet fish feed at 1200 MMK per Viss [USD4.5 for 10 kg], generating almost 25% profit on the investment.

5. Fish Feed Production Training Myitkyina Township, Kachin State

On June 17-18 2021, the WorldFish field team organized two days of a face-face training sessions on “fish feed production” for the farmers and Community Facilitators (CFs) representing one of the implementation

partners (IPs), the Myanmar Fisheries Federation (MFF) in Kachin state.



Figure 6. A facilitator briefing on how to make sinking pellet fish feed by using locally available raw materials in Kachin.

The key objectives of the training are to promote local fish feed production in the area and the accessibility of quality fish feed to the farmers. The training session was attended by a total of 11 participants; six (6) farmers from Myitkyina, Bhamaw, and Waimaw (Male=5, Female=1), and five (5) Myanmar Fisheries Federation (MFF) staff (Male=4, female=1). The training was organized in the MFF office Myitkyina township, Kachin state as can be seen in figure-6.

In the training sessions, the participants were trained on how to make sinking pellet feed by using locally available raw materials, such as rice bran, sesame cake, mustard cake, cassava, and salt. The participants actively participated in how to achieve the required protein percentage i.e., 20.5% of pellet fish feed and, how to use the *Activity* provisioned fish feed making machine practically. By using locally available raw materials, one Viss (1.64 kg) of pellet fish feed will cost 900 MMK [USD3.50 for 10Kg] The farmer can sell the produced pellet fish feed at the price of a minimum of 1000 MMK per Viss [USD3.85 for 10Kg] a 10% profit. It will benefit the feed producers and Small-scale Aquaculture (SSA), grow-out farmers, in the community by the access to fresh feed as required without risks associated with storage (pest damage and fungal growth). The farmers and CFs are trained on the importance of making pelleted fish feed, how to mix the raw

ingredients, and the suitable protein percentage for the fish feed. With this improved knowledge imparted through this training session, farmers will produce the pelleted fish feed locally and sell it to the grow-out farmers locally and within their peripheries.

6. Carp Nursery Management training at Nang Sam and Ho Pong townships,

Southern Shan: The availability of larger fingerlings plays a key role in SSA to produce quality fish with a high growth rate. On June 17 and 29 2021, the *Activity* conducted face-to-face training sessions on carp nursery management in Nang Sam and Ho Pong townships in Southern Shan state. The training sessions were facilitated by one of the field staff members of the WorldFish as can be seen in figure-7. A total of eight 08 (Male=6, Female=2), 5 nursery farmers, 2 community facilitators, and 1 grow-out farmer in Nam Sang township, and 06 (Male=5, Female=1) 2 nursery farmers, 2 grow-out farmers, and 2 community facilitators in Ho Pong township participated in the training sessions. The training sessions covered a range of topics including; 1) type of nursery, 2) pre-stocking management, 3) stocking management, 4) post stocking management, 5) fry hardening, 6) transportation & packaging, and 7) marketing.

The supply of larger fish fingerlings is always a problem for SSA farmers due to the high transportation cost, high mortality for longer distances from the hatchery, and lack of availability throughout the year. The farmers can address these issues while also ensuring that larger fingerlings are available at an affordable price in their area with the establishment of a new nursery. The participants, who attended the training session, acquired new learning on carp nursery management that will help improve the quality of fingerlings production and healthy survival rate when learned behaviors would be practiced well.



Figure 7. Participants receiving training from a field staff on Carp Nursery management at Ton Tee village, Ho Pong township.

B. Capacity Development Initiatives for market and value chain actors:

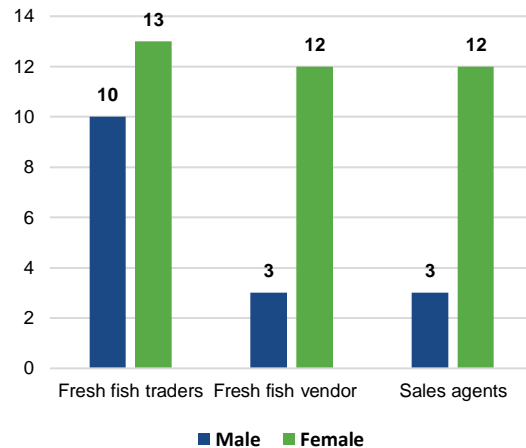


Figure 8. Number of market actors (male and female) participated in capacity building initiatives.

Figure-8 above shows the pictographic illustration of market actors (fish traders, vendors, and sales agents) who attended training sessions arranged by the Activity staff. 53 (Male=16, Female=37) market actors were directly engaged, 23 (43%) fresh fish traders, and 15 each fresh fish vendors and sales agents. Interestingly, the vast majority of female participants, 37 (70%), received knowledge on post-harvest different dimensions through these training sessions.

1. Training on Good Post-harvest practices for fresh fish trading among community facilitators: On May 5 & 6 2021, two-day online training sessions facilitated by Asper Consulting company were rolled out. Initially, fresh fish vendors were the target participants, however, due to the emerging situation where internet connection has been cut off in multiple areas, the team devised to provide the training to community facilitators (CFs) so when restrictions are lifted, subsequently, the CFs can conduct face to face training to fresh fish vendors when possible.

A total of 13 CFs (Male=10, Female=3) from KMSS Kengtung (Tarlay and Kengtung townships) and MFF Kachin (Myitkyina and Bhamo townships) participated. The topics discussed were; 1) Good Post-Harvest Practices = Good Business, 2) Quality Fish is in Your Hands, 3) Ice for Profit, 4) Clean and Attractive Work Places for Good Business, and 5) Roles of facilitator and facilitation techniques. The 2nd day of the training was focused on the participants demonstrating how to facilitate the topics and feedback and suggestions were provided by the facilitator at the end of each topic session. This method enabled the participants to become confident when providing the training to fresh fish vendors in the coming weeks. It is expected that the topics learned by the CFs will be shared among fresh fish vendors to improve the quality of fresh fish that leads to improve income and enhance the ability to provide safe and fresh fish for consumption among local consumers.

2. Good Post Harvest Practices for Fresh Fish vendor

On May 18 and 19 2021, the *Activity* organized two days of online training on good post-harvest practices for the fresh fish vendors and CFs from IPs in southern Shan state. The key objectives of the training were to empower women and men fish vendors:

- To improve the quality of their fish to help them improve their incomes from sales
- To enhance their ability to provide safe and good quality fresh fish to consumers



Figure 9. Fresh Fish vendors attending session on good post-harvest practices.

The trainer from Asper consulting led the training. The first day of the training explained about good post-harvest practices, ice for profit, a clean and attractive place for good business, and the role of the facilitator and facilitation techniques. The second day was a demonstration on how to deliver the training by participants to the fish vendors and to display the fish with icing to maintain the fish quality. A total of 15 participants (Male=3 and Female=12) were attended the training.

The vendors and CFs are trained on the importance of good post-harvest practices for improving the profitability of their business. Soon after the training, the vendors will be practicing the experience gained from the training and sharing it with their peer vendors.

3. Training on Good Post-harvest practices for fresh fish trading among fresh fish vendors:

On May 16-18 and 29-31 2021, the *Activity* conducted face to face training among 10 women fresh fish vendors in Tarlay and Mong Hpayt, Eastern Shan state, and 9 women fresh fish vendors in Bhamo and Myitkyina, Kachin state. The training sessions were facilitated by CFs from IPs.

For the duration of the training, the topics covered were 1) good post-harvest practices = good business, 2) quality fish is in your hands, 3) ice for profit, 4) clean and attractive workplaces for good business, and 5) roles of facilitator and facilitation techniques. This communication is the first interaction with the fresh fish vendors in the *Activity* areas which will be followed through depending on the

needs identified by the vendors and the situation on the ground. New learning gained when applied by the participants can help improve the quality of fresh fish sold. Subsequently, lead to increase income and enhance fresh fish vendors' ability to provide safe and good quality fresh fish for consumption among local consumers.

4. Training of sales agents for food products with dried small fish powder in Yangon:

On June 20-21 2021, *Activity* in partnership with FedWell Foods, a local food company, conducted a face-to-face training to 15 (Male=3, Female=12) youth sales agents. The main objectives of the activity are the following; 1) provide information on the nutritional benefits of dried small fish powder, and 2) engage participants in the project by selling the food products with dried small fish powder among local communities. The sessions covered the process of making the products (rice porridge, vegetable noodle soup, cookies, chickpea balls, complimentary food), the nutritional value of each product, demonstration on how to prepare the products, and food tasting. After food tasting, sales agents were asked to provide feedback and suggestions. Of the products tasted, vegetable noodle soup, cookies, and chickpea balls received the highest praise. The sales agents mentioned that it was tasty and have the potential to be sold quickly in their neighborhoods.

The activity is a way to promote the production and consumption of nutritious products among individuals who are committed and willing to talk to their communities on the potential of these products to increase micronutrient intakes among infants and young children who require it for growth and cognition development. The outcome of these initial promotional activities can help determine the viability of these products to be mass-produced making it accessible to many consumers that results in improved nutrition which is one of the major aims of Fish for Livelihoods.

5. Agriculture, Nutrition and Health (ANH) Academy week Oral Presentation on Piloting of fish-based processed products

to increase micronutrient intakes in the first 1000 days of life in Myanmar: On June 29, 2021, WorldFish Human Nutrition Specialist, presented in the online [ANH Academy week 2021](#), a global event for researchers, practitioners, and policymakers to share knowledge and innovations on agriculture, nutrition, and health. The event was led by the London School of Tropical Hygiene and Medicine, the London Centre for Integrative Research on Agriculture and Health, IMMANA, and the CGIAR Research Program on Agriculture for Nutrition and Health.

The [poster](#) presentation focused on the experience of developing local food products like dried small fish powder to increase micronutrient intakes among infants, young children, and pregnant and lactating women. The activity is implemented in partnership with [FedWell Foods](#), a local food company in Yangon, Myanmar. The presentation highlighted innovative solutions based on local resources. e.g., small indigenous fish species have potential when provided equal support by donors, the private sector, and research institutions. The event served as a good platform to showcase one of the interventions that are being carried out under the *Activity*. By presenting the experience to a wider audience, it adds to the body of knowledge that dried small fish powder and aquatic foods contribute to achieving good nutrition, especially among the vulnerable groups.

C. Cross-cutting Theme:

1. Annual Performance Surveys:

The Monitoring Evaluation and Learning (MEL) team with the help of the field team and field staff along with external short-term hired Encoders and Enumerators conducted annual performance surveys of Year-1 farmers including; production, Better Management Practice (BMP) adoption, WASH, and MDDW. The data collection was done either in person – where possible – or via telephone calls from the respondents. For WASH, BMP adoption, and MDDW surveys, the Kobo toolbox software program was deployed to collect data. The production data was encoded from Farmers Record Books

(FRBs) issued to them at the start of the production cycle. The survey results will serve as an independent verification of WASH and BMP adoption services in line with the Activity MEL plan guidelines and, will provide data to feed into the indicators. Additionally, the data analysis will generate useful insights mainly around production, income, and nutrition for the SSA farmers and their families. Results of these surveys will serve as a standard to compare performance for the successive years of the Activity.

2. Nutrition Event

Inle Lake Conservation Committee (ILCC) is one of the Activity's IPs who is supporting fisherfolks to ensure that the livelihoods of the fisherfolks are ensured and sustained. ILCC has delivered training sessions to the fisherfolks on nutrition, food safety, and lake conservation awareness campaign. On May 14 2021, ILCC conducted a nutrition event to improve nutritional knowledge on food safety and to demonstrate cooking nutrient-rich fish in various recipes at the peripheries of Inle Lake (figure-10). A total of 50 participants (Male=31, Female=19) were in attendance at the event. This training was the first exposure of fisherfolks in getting awareness about the topic focused on nutrition. Fisherfolk improved their nutritional knowledge and learned multiple ways of cooking fish dishes during the event. This training helps them to ensure that nutrient-rich fish are consumed and they be able to cook with different recipes in their daily life.



Figure 10. Nutrition event in “Haelone village, Inlay Lake”.

D. Political situation and COVID-19 implications on the Activity:

The reporting quarter (Apr – June 2021) was marred by the current political situation and then a deadly wave of COVID-19 which hit hard not only Myanmar but the Southeast Asia region as well. Despite these challenges, field team members were able to visit villages, interact with SSA farmers and communities for the implementation of activities across five region/state (s). However, in a few townships (e.g., Pekhon, Taunggyi) the situation remained unstable to work in the villages. Military and police were patrolling day and night. There were reports that families in Pekhon are still living in the forest or Internally Displaced Person (IDP) camps, and they anticipate not going back to their villages until the situation stabilizes. There was a steep spike of Covid-19 positive cases in Shan State. The authorities have imposed a homestay order for the public in Shan State that delays some of the planned activities in *Activity's* intervention areas.

The access to cash from the banks across Myanmar has remained a key challenge that hampers implementation. Most of the sellers refused to accept cheques or money transfers in their bank accounts because it is very difficult to withdraw cash even from personal bank accounts. The limits on cash withdrawals were reduced to 200,000 MMK (US\$130) per person per week limiting the economic activity across the country.

For more information about the *Activity* and to access communication products and material, please visit the link given below;

<https://www.worldfishcenter.org/project/fish-livelihoods>