

Fish for Livelihoods (F4L) Newsletter

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Fish for Livelihoods:

The United States Agency for International Development (USAID) funds the Fish for Livelihoods (F4L) *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.

From October 2021 to September 2024, the *Activity* is implemented in five inland states and regions in Central and Northern Myanmar: Kachin, Magway, Mandalay, Sagaing, Southern Shan, and Eastern Shan. The *Activity* primarily targets SSA households with small ponds <0.5 acre (2,000m²) and associated supply chain actors. Over the three years, at least 6,000 individuals, mainly pond farmers, and fish supply chain market actors, will receive assistance.

Activity anticipated results:

Inclusive and sustainable aquaculture growth to improve nutrition and food security, especially for reproductive-age women and children under 5 years of age in central and northern Myanmar.

IR 1: Production. Small-scale aquaculture production increased through improved 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 by 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 dietary diversity and consumption of safe fish products and increased access to WASH packages, especially for women of reproductive age and children under 5 years of age.



Figure 1. A mother feeding porridge supplemented with dried fish powder during a community event organized by the Activity.

A. Capacity building of SSA farmers and fish value chain market actors:

SSA farmers, fisherfolks, and fish value chain market actors are integral to the *Activity*'s interventions in Myanmar. One of

the core components is to strengthen the capacity of SSA farmers, fisherfolks, and market actors. The increased capacity translates into more effective and efficient aquaculture management in Myanmar. In this quarter, the *Activity* facilitated a range of training sessions to help participants improve their capacity.

1. SSA refresher training in Seik Phyu, Ngape and Myothit Townships, Magway Region:

The *Activity* delivered in-person SSA refresher training to 19 male farmers in Shwe Pan village, Myothit Township. The *Activity* also delivered virtual SSA refresher training sessions in Ngape and Seik Phyu Townships, which were attended by 18 (male=17 and female=01) farmers and 13 male farmers, respectively. The *Activity* provided FY 2022 farmers with SSA refresher training, including clear guidance on how to apply Better Management Practices (BMPs), information on human nutrition, and pond dike cropping systems. Improved knowledge and skills attained via training sessions will have a positive impact on farmers and result in increased fishpond productivity, when practiced well.

B. WASH, nutrition, and post-harvest activities:

1. Hand Washing Day celebration in Sagaing, Magway, Kachin, Southern and Eastern Shan:

Leading up to the Global Hand Washing Day on 15 October, the *Activity* held a campaign in Sagaing, Kachin, Magway, Southern Shan, and Eastern Shan from 12 to 14 October 2022 with the theme “*Unite for Universal Hand Hygiene*”. The campaign reinforced the message that handwashing with soap reduces the risk of many diseases that can cause both acute

and chronic health issues and therefore development. According to a 2021 study by Shane Htet Ko and Hiroshi Sakai, all ‘potable’ water sources in Myanmar’s Delta region are contaminated with fecal coliform bacteria. It is likely to be the case nationwide.



Figure 2. A female community member explaining the importance of handwashing to young children.

According to the latest estimates, around half of Myanmar’s population drinks contaminated or polluted water. For rural dwellers in Myanmar, these estimates tend to be on the higher side. Water-borne diseases (diarrhea, for example) are directly linked to the drinking of contaminated water, particularly in women and children under the age of five.¹ To increase awareness about better hygiene and drinking safe water, the *Activity* facilitated a range of training sessions for participants. These sessions were attended by a total of 207 (female=126, male=81) participants. In addition to sharing the key messages, the team also distributed posters and soap to reinforce the importance of handwashing with soap for good health. This raised awareness about the importance of handwashing, a simple yet cost-effective practice. It is anticipated, and will be checked, that those who participated in the event would apply what

¹ <https://doi.org/10.2166/wh.2021.192>

they learned and disseminate the information among their neighbors in order to keep everyone in the community as healthy as possible.

2. Distribution of low-cost portable fish driers at Inle Lake, Southern Shan:

The *Activity* distributed two portable fish driers to two fish women processors. Before distribution, the processors were trained on good fish processing practices to ensure the production of quality products with less loss and waste, resulting in increased income. With the portable fish drier, fish processors can dry the fish safely preventing contamination from flies, rodents, and other animals that can be harmful to human health.



Figure 3. Fish drier hanging outside a fish processor's house at Inle Lake, Southern Shan.

With the provision of fish driers to processors, the *Activity* helped address one of the barriers faced by fish processors in adhering to good food safety and fish processing practices. The activity can help increase fish processors' income while also providing safe and nutritious food to consumers, which is one of the *Activity's* objectives.

3. Cooking demonstration in Magway Region:

The *Activity* conducted Improved Nutrition (cooking demonstration) and water

sanitation and hygiene (WASH) practices training in Salin and Myothit Townships, Magway. The demonstration was attended by 20 (male=3, female=17) participants from Salin Township and 21 (male=6, female=15) participants from Myothit Township. Human nutrition and WASH activities are important for community building as a means of promoting improved health and livelihoods. These communities are now aware of the three basic food groups and the importance of water sanitation and hygiene to improve health and productivity.



Figure 4. Community members at a cooking demonstration event in Magway.

4. Production of dried fish powder from small fish demonstration in Shwebo:

SSA farmers from Shwebo Township demonstrated how they produce fish powder from small fish and shrimp harvested from their fishponds. The demonstrations took place in two different villages, Ooyintaw and Maygon. There were 11 (female=07, male=06) and 13 (female=05, male=08) participants from Ooyintaw and Maygon, respectively. SSA farmers shared their experiences with grinding fish, both fresh and dry, as well as delicious meals supplemented with fish powder in place of monosodium glutamate (MSG). This enhances the quality of the local diet among rural household members and schoolchildren. In addition, a local food

stall in the village began using dried fish powder.



Figure 5. Participants discussing how to grind fish using an electric grinder.

Grinding involves pulverizing whole dried fish and shrimp into a powder, which contains macro and micronutrients from the head, bones, and flesh. This improves the diets of weaned infants and other children, as well as adults, particularly women of reproductive age. Calcium can also help protect women against osteoporosis.

C. Learning, Monitoring, and Exchange Visits:

1. The Linkage Workshop and Peer-to-Peer Learning in Pindaya township, Southern Shan:

Farmers in Pindaya Township have benefited greatly from their aquaculture business having trained on better aquaculture practices by the *Activity* over the 3-year period. However, linkages between feed millers, nurseries, hatcheries, and fish retailers need to be improved. A total of 52 (male=28, female=24) participants received training in Kyauk Su village, Pindaya Township, Southern Shan State. The trainees came from all sectors of small-scale fish production and exchanged knowledge from the hatchery, nursery, grow-out, feed production, and marketing.



Figure 6. A glimpse of the linkage workshop in Pindaya township.

The face-to-face linkage workshop and peer-to-peer learning were carried out under challenging circumstances with the full participation of *Activity* staff, farmers, aquaculture promoters, and aquaculture market-related actors. As a result of the workshop, farmers will be able to connect with seed and feed suppliers. Fish vendors and processors have strengthened their relationships and are selling their products more successfully in the market. When compared to expensive commercial feeds, WorldFish feed trials in 2022 demonstrated that locally-made artisanal fish pellets provide the best cost-benefit results.

2. Exchange visit to a demonstration pond in Mogaung Township, Kachin State:

The *Activity* held an exchange visit where participants visited grow-out farmers in Mogaung Township, Kachin. Thirteen (male=9, female=4) SSA farmers participated in this visit. The main purpose was to visit U Aung Mai's demonstration pond to learn about: 1) his successful feeding system, fish species used, stocking density, and fish sampling method used to calculate feed rates; 2) to share general experience from the demonstration farmer; and 3) to learn about pond management techniques, including the application of lime and fertilizer during pond preparation,

natural food observation, and simple water quality testing. The exchange of knowledge from an experienced demonstration farmer who produces fish more efficiently than the typical farmer is important because farmers learn from the experience of an expert farmer adopting BMPs.

3. Farm exchange visits between SSA farmers in Kengtung and Tarlay, Eastern Shan:



Figure 7. Farmers who participated in the exchange visits in Kachin State.

Exchange visits between SSA farmers in Kengtung and Tarlay townships were carried out in November and December, respectively. SSA farmers spoke with the *Activity* team on behalf of hatchery operators, nursery operators, grow-out farmers, and feed millers in order to exchange ideas and operational experiences. The exchange visits were attended by 23 (female=09, male=14) and six (female=01, male=05) participants in Kengtung and Tarlay, respectively. SSA farmers could discuss their problems and ask how to solve them in terms of technical approaches to problems such as fish stress and mortality caused by poor handling while being transported, first aid to cure critical quality of pond water, and selection of locally available raw ingredients to add to feed formulation. All of this is about the short-term viability of Genetically Improved Farmed Tilapia (GIFT) production and

raising awareness of good practices at the demonstration ponds.

4. Hosting of SUN CSA learning visit in Southern Shan:

The *Activity* hosted a learning visit for eight members from the Scaling Up Nutrition Civil Society Alliance (SUN CSA) Network, Myanmar in Nyaung Shwe and Pindaya Townships, Southern Shan. The purpose of the visit is to learn about the different fish agri-food system approaches implemented by the *Activity* to solve food and nutrition insecurity in Myanmar. The *Activity* team was able to demonstrate good practices on SSA technology and low-cost innovation as solutions for ensuring good nutrition and health among local communities. It is envisaged that SUN CSA members would pass the information and replicate approaches to their respective areas, resulting in a large number of people benefiting indirectly from the *Activity's* interventions.



Figure 8. Exchange participants at a demonstration pond observing pond management.

5. Field monitoring visit to SSA farmers in Kengtung, Monghpyak, Mongyawng and Tarlay:

Field monitoring visits were carried out at two hatcheries, four feed millers, five nursery farms, six demonstration ponds, and six grow out ponds. The *Activity* team met to discuss technical assistance and support for hatcheries, nurseries, feed makers, and grow out farmers. The key issues of the whole visit were linkage with feed makers, not just with *Activity* farmers but also with outsiders, upgrading hatcheries to produce quality monosex tilapia, and improving pellet feed quality and access to affordable feed ingredients.

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>



Figure 9. Nursery farmers and feed miller reflecting on their 3 years' experience working with the *Activity* team at Tar Lay.

From the visit, the *Activity* team was able to identify the weaknesses and make recommendations for improved farming on SSA technology using cost-effective techniques. Farmers recognized the benefits of BMPs over traditional farming after two years of implementation. Farmers could reflect on and apply the technical inputs, as well as disseminate the information to their peers to ensure that the practices benefitted from the *Activity* are followed.