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[FISH FOR LIVELIHOODS]

# Annual Progress Report

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## Acronyms

<i>Activity</i>	Synonymous with project
AP	Aquaculture Promoter
AYO	Ar Yon Oo (local NGO and Implementation Partner)
BMPs	Better Management Practices
BRAC	International NGO and F4L Implementation Partner
CBOs	Community-Based Organizations
CoP	Chief of Party
CSO	Civil society Organization
DCoP	Deputy Chief of Party
DTP	Data Tools Package
F2F	Farmer-2-Farmer <i>Activity</i>
F4L	Fish for Livelihoods
GBV	Gender-Based Violence
GESI	Gender Equity Social Inclusion
GPS	Global Positioning System
HH	Household
HQ	WorldFish Headquarters
IEC	Information Education and Communication
IECT	Information Education and Communication and Training
INGO	International Non-Governmental Organization
IP	Implementing Partner
IR	Intermediate Result
IWD	International Women’s Day
IWMI	International Water Management Institute
IYD	International Youth Day
KMSS	Karuna Mission Social Solidarity an Implementation Partner
LLW	Lessons Learned Workshop
LoA	Life of the <i>Activity</i>
M&E	Monitoring & Evaluation
MDDW	Minimum Dietary Diversity for Women
MEL	Monitoring Evaluation and Learning
MFF	Myanmar Fisheries Federation an Implementation Partner
MMK	Myanmar Kyat
NGO	Non-governmental Organization
OD	Organization Development

PCA	Participatory Community Appraisal
SBCC	Social Behaviour Change Communication
SDG	Sustainable Development Goals
SIS	Small Indigenous Fish Species
SRT	Sex Reversed Tilapia
SSA	Small-Scale Aquaculture
Sub-IR	Sub Intermediate Result
SUN CSA	Scale Up Nutrition Civil Society Alliance
ToT	Training of Trainers
USAID	United States Agency for International Development
USD	United States Dollar
WASH	Water Sanitation and Hygiene
Y3	FY 2022
Y4	FY 2023

## 1. Executive Summary

Fish for Livelihoods (F4L) completed another year of implementation. FY 2023 was the fourth year of *Activity* implementation<sup>1</sup>. Building on the first three years of implementation, F4L continued assistance to small-scale aquaculture (SSA) farmer, fishers, market actors, and their families. The F4L *Activity* scaled interventions in new townships based on the previous year's tested implementation model. New farmers are identified and selected in many townships who receive assistance from F4L for the first time. The *Activity* made significant accomplishments against the annual targets set forth at the beginning of FY 2023. Similar to previous years, F4L field teams had to overcome many challenges and restrictions resulting from political instability, economic fragility, and ongoing conflict in some parts of the country. Despite all the challenges, F4L successfully carried out implementation in 31 townships with a 93% burn rate.

In the reporting period, F4L assisted farmers in 31 (Existing=27, New=04) townships across five Regions/States in Burma. F4L *Activity* selected 1,164 (Male=750, Female= 414) farmers in the reporting period. These farmers received assistance through a range of interventions (fish and vegetable seed, WASH material and in some cases value-addition equipment and improved marketing trays). F4L encourages SSA farmers to adopt and practice Better Management Practices (BMPs) to culture fish. In FY 2023, 1,047 (Male=753, Female=294) farmers adopted and practiced BMPs before stocking, after stocking, and at the time of harvest. F4L also captures the aquaculture production of SSA farmers who harvested their ponds in FY 2023. The average production was computed as 1,583 (kg/ha), which was lower than expected due to the rising cost of inputs (fuel, feed, fertilizer) prices leading to cost savings by reduced pond fertilization and fish feeding. F4L supported hatcheries and nurseries that produced 198 million fish seed. F4L participants and non-participants can access this quality seed in their vicinity.

F4L was able to expand access to finance for SSA farmers, fishers, and their Households (HH). At present micro-finance access is difficult as most farmers want very small loans (USD25 to USD50) the management of which is not tenable for the loan providers. F4L set up three revolving funds for fisher folks, and at the same time, F4L partners disbursed micro-loans to SSA farmers. In the reporting year, 880 participants (Male=659, Female=221) were able to access micro-credit from F4L-generated revolving funds or F4L-supported micro-credit instruments in their communities. Farmers and fishers were able to increase their income and investment in fisheries-related businesses. The data suggests that F4L *Activity* was able to promote commercial practices for SSA farmers. In the reporting year, 1,900 (Female=524, Male=1376) farmers reported selling their produce in the market thus increasing commercial activities. In FY 2023, entities that received assistance from F4L generated \$ 1 Million in annual sales value.

F4L supported SSA farmers and their family members with a range of WASH and nutrition interventions. These included toilet bowls to 215 farmers, 31% female in Mandalay and Southern Shan State. Moreover, the WorldFish in-house annual survey showed that 97% of surveyed households have access to water with soaps for hand washing – an important indicator for WASH. The nutrition component promotes the consumption of diverse diets including fish, vegetables, and fruit. It also encourages farmers to grow vegetables on pond dikes to adopt an integrated agriculture approach<sup>2</sup>. F4L distributed vegetable seed to 1,297 farmers – 30% of whom were female – to grow vegetables on pond dikes. Moreover, as in previous years, an in-house survey on Minimum Dietary Diversity for Women (MDDW) was also employed. The survey results revealed that 55% of surveyed respondents (females of reproductive age) consumed a diet of minimum diversity. More than 50% of females consuming a diverse diet is still a good achievement under prevalent food insecurity in Burma. A range of *Activity* interventions resulted in a spillover effect from participants

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<sup>1</sup> Referred to as the second year by the US Embassy Burma, due to the reimbursement funding modality which started 14 September 2021.

<sup>2</sup> The vegetable cropping can be on the pond dike if it is wide enough or adjacent to the pond.

(beneficiaries). This spillover effect helped reach more than 10,000 indirect beneficiaries in the reporting period. These indirect beneficiaries accessed indirect services through participants, their families, or from virtual platforms like Green Way, Village Link or Facebook active in Burma.

The capacity building of F4L partners, community-based local organizations at the organizational level, and SSA farmers, fishers, and market actors remained a hallmark of F4L *Activity* throughout FY 2023. For organizational capacity building, F4L hired a consortium with international and national organizations to build the capacity of local organizations (CBOs/CSOs) in Burma to promote localization. The consortium engaged six local organizations; three each in Kachin and Southern Shan and provided them with institutional building capacity support. The consortium will also work with WorldFish to enhance F4L local partners' capacity in the forthcoming year. The entities (CSOs/CBOs) who received assistance in the previous year, 80% of them reported an increase in their overall capacity.

In FY 2023, F4L delivered training and capacity-building sessions to 343<sup>3</sup> (Female=158, Male=185) staff members from WorldFish and all F4L partners. The key topics covered were virtual platforms, gender Training of Trainers (ToT), Aquaculture modules, and fish powder production. Subsequently, 7,808<sup>4</sup> (Female=3,343, Male=4,465) farmers, fishers, and their family members received capacity-building support from F4L on a range of topics. The broader topics covered in the sessions ranged from aquaculture, nursery and hatchery management, fish feed management and production, nutrition, and financial literacy. The capacity built results in improved management of the ponds, nurseries, hatcheries, and aquaculture-related businesses. This helps participants to increase their productivity and income as well.

For cross-cutting themes, WorldFish Monitoring Evaluation and Learning (MEL) and the data team continued to build the capacity of F4L partners. The capacity-building initiatives were aimed at refining the data management skills of partners. A range of capacity-building initiatives were delivered during the reporting period which resulted in robust and rigorous data collection. The gender team also organized events aimed at the empowerment of women and the incorporation of gender and inclusion lens in *Activity* implementation. Some of the notable events were commemorated on International Women's Day (IWD) and International Youth Day (IYD) in March and August respectively. Moreover, WorldFish arranged several sessions on gender with F4L partners within communities. These events resulted in prompting awareness around key topics like gender inclusion and gender-based violence (GBV), to mention a few.

The F4L *Activity* will continue its support to SSA farmers in Burma. In the upcoming year, WorldFish intends to work with more local partners from the private and development sectors. An international implementation partner (PACT) is being replaced with a national NGO (Ar Yon Oo-Social Development Association (AYO-SDA)). At the same time, F4L will include more regional chapters of the Myanmar Fisheries Federation (MFF) to expand outreach and deliver support where it is needed the most. The implementation approach and model will remain the same, however, we will embed lessons learned in the previous years of implementation. F4L will work with SSA farmers to ensure that they increase their production and income. Moreover, market actors across the fish value chain will also remain critical to ensure a consistent supply of fish to the people of Burma, especially poor women and children.

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<sup>3</sup> There is a possibility of duplication where a staff member attended training/workshop on more than one topic.

<sup>4</sup> There is a possibility of duplication where a participant attended training/workshop on more than one topic.

**PERFORMANCE INDICATORS TARGETS AND ACHIEVEMENTS OF FISH FOR LIVELIHOODS**

Indicator	Baseline (FY 2020)	Oct 2022 to Sep 2023 (FY 2023)	Oct 2021 to Sep 2024		Oct 2019 to Sep 2024	
		Achievement of Reporting Period	Target	Achievement as of Sep 2023	Overall Target	Achievement as of Sep 2023
EG.3-2: Number of individuals participating in USG food security programs [IM-level]	0	<b>5,814</b> (Male=3,733, Female=2,081)	6000 = 3000 SSA Farmers and 3,000 others	<b>9,477</b> (Male=5,951, Female=3,526)	10,000 (a) = 5,000 SSA Farmers and 5,000 others	<b>14,908</b> (Male=9,511 Female=5,397)
EG. 3-10, -11, -12: Yield (i.e., production/unit area) of targeted agricultural commodities among program participants with USG assistance	3,288 [this figure is being revised to 1,500]	<b>1,584</b> (kg/ha)	10% increase from the baseline	<b>1,870</b> (kg/ha)	10% increase from the baseline	<b>1,840</b> Kilograms per Hectare (kg/ha)
Custom 1.1: Number of farmers shifted from subsistence to commercial aquaculture practices	0	<b>1,900</b> (Male=1376, Female=524)	30% of 6000 participants = 1800	<b>3,638</b> (Male=2,715, Female=923)	30% of the total direct farmers 10000 participants shifted to commercial aquaculture activities = 3000	<b>4,267</b> (Male=2,715, Female= 923, Disaggregates Not available= 629)
E.G., 3.2-24: Number of individuals in the agriculture system who have applied improved management practices or technologies with USG assistance	15%	<b>1,047</b> (Male=753, Female=294)	60% of SSA farmers = 1800	<b>2,067</b> (Male=1,494, Female=573)	60% of SSA Farmers = 3,000	<b>3,462</b> (Male=2,644, Female=818)
EG. 4.2-7: Number of individuals participating in USG-assisted group-based savings, micro-finance or lending programs [IM-level]	13%	<b>880</b> (Male = 659, Female = 221)	30% of 6000 = 1800	<b>1,262</b> (Male=953, Female=309)	30% of farmers and fishers of 10,000 (a)	<b>1,733</b> (Male=1,357, Female=376)
Custom 1.4: Number of fry and fingerlings produced by the hatcheries/nurseries supported	0	<b>198 million seeds</b> (197,599,163 – hatchery)	600 million seeds	<b>754</b> million seeds	600 million seeds	<b>980</b> million seeds



Indicator	Baseline (FY 2020)	Oct 2022 to Sep 2023 (FY 2023)	Oct 2021 to Sep 2024		Oct 2019 to Sep 2024	
		Achievement of Reporting Period	Target	Achievement as of Sep 2023	Overall Target	Achievement as of Sep 2023
		+ 265,392 nursery = 197,864,555)				
Custom 1.5 Number of households accessing quality feed and feed ingredients through the newly established feed traders and feed mills	0	<b>1,594</b> (Male=949, Female=645)	1800 households (direct)	<b>3,462</b> (Male=2,217, Female=1,245)	3000 households (direct)	<b>3,462</b> (Male=2,217, Female=1,245)
CBLD-9: Percent of USG-assisted organizations with improved performance [IM-level]	0	<b>80%</b> (4 out of 5 entities)	75%	<b>80%</b> (4 out of 5 entities)	06/08 (75%) organization/ CBOs/ Institutions	<b>80%</b> (4 out of 5 entities)
Custom 1.6 Number of non-participants (indirect beneficiaries) engaged and assisted by the <i>Activity</i>	0	<b>13,503</b> (Male= 7,130, Female=3,958, Disaggregates not available =2,415)	14,000	<b>20,044</b> (Male=10,398, Female=6,875, Disaggregates not available= 2,771)	14,000 indirect beneficiaries	20,044 (Male=10,398, Female=6,875, Disaggregates not available= 2,771)
EG.3.2-26: Value of annual sales of producers and firms receiving USG assistance [IM-level]	N/A	<b>1 million \$</b>	10 million \$	<b>3.2 million \$</b>	US\$ 10 million (direct) + 5 million (indirect) = 15 million	<b>5.6 million</b>
Custom 2.1: Number of farmers groups selling fish and fish products using BMPs (Best Management Practices)	0	<b>1 farmer group (BMP survey)</b>	15	<b>3 farmer groups (BMP survey)</b>	15 groups	<b>07</b> farmer groups (BMP survey)
Custom 2.2: Number of food processors improved their processing practices	0	<b>20</b> (Female)	20	<b>34</b> (Male=4, Female=30)	20	<b>34</b> (Male=4, Female=30)
GNDR 2: Percentage of female participants in USG-assisted programs designed to increase access to productive economic resources [IM-level]	0	<b>36%</b>	35%	<b>37%</b>	35%	36%

Indicator	Baseline (FY 2020)	Oct 2022 to Sep 2023 (FY 2023)	Oct 2021 to Sep 2024		Oct 2019 to Sep 2024	
		Achievement of Reporting Period	Target	Achievement as of Sep 2023	Overall Target	Achievement as of Sep 2023
HL.8.2-2: Number of people gaining access to a basic sanitation service as a result of USG assistance [IM-level]	0	<b>960</b> (Male=474, Female=486)	1400	<b>1,388</b> (Male=679, Female= 709)	1400	<b>2,255</b> (Male=1,116, Female= (1,139))
HL.8.2-5: Percent of households with soap and water at a handwashing station on premises [IM-level]	80%	<b>97%</b>	100%	<b>98%</b>	100%	<b>97%</b>
EG.3.3-10: Percent of female participants of USG nutrition-sensitive agriculture activities consuming a diet of minimum diversity [IM-level]	59%	<b>55%</b>	80%	<b>58%</b>	80%	<b>63%</b>

## 2. Introduction

In October 2019, USAID provided a grant (AID-442-IO-16-00002 and agreement number 72048221IO00001) to WorldFish for the implementation of the Small-scale Aquaculture Investments for Livelihoods (SAIL) *Activity* in Burma. The first two years of operation October 2019 to September 14, 2021 we operated under an advance payment modality. From 15 September 2021 to date F4L operates under a reimbursement mode. The project subsequently referred to as an *Activity* was initially called Small-Scale Aquaculture Investments for Livelihoods (SAIL) – this was modified to F4L (Fish for Livelihoods). The *Activity* was initially designed to cover the 5-year period 2019-2024. In this reporting year a USD9 million costed extension 15 September 2024 to 14 September 2027 was agreed. The work, to date and to close, focuses on improving the nutrition status of small-scale farmers, value chain operators, fisherfolk and the vulnerable poor in Central and Northern Burma by promoting inclusive and sustainable aquaculture growth. WorldFish is leading this *Activity* with the following Implementing Partners (IP): BRAC, International Water Management Institute (IWMI), Karuna Mission Social Solidarity (KMSS), Myanmar Fisheries Federation (MFF) and PACT<sup>5</sup>. This *Activity* aims to provide a means of ensuring the improved availability of diverse, safe, affordable nutrient-rich food, especially for women and young children from poor and vulnerable households.

This will be achieved by ensuring that poor households have an increased ability to purchase accessible nutritious food due to improved incomes from entrepreneurial activities including better-managed small-scale aquaculture and integrated agriculture systems (rice-fish-vegetable) in the intervention areas and the strengthening of aquaculture market systems with attention to expanding opportunities for women and youths. In addition, behavioral change work will prioritize nutrition-conscious household decisions employing both home production and local market access. Specifically, it is expected that the adoption of fish culture technologies would contribute to improved food and nutrition security for poor households in several ways.

1. Generating income from the fish culture which would be used to purchase nutritious food
2. Creating alternative employment-generating activities and increasing labor productivity
3. Increasing available food supply and fish consumption

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<sup>5</sup> PACT opted to stop work with F4L at the end of the current reporting year. They have been replaced by a local NGO called Ar Yon Oo Social Development Association (AYO-SDA) who initiated their work in Magway townships on 14 September 2023 by rehiring the PACT fieldstaff.

### 3. Goal and Objectives

The *Activity* proposes to change the current aquatic food production scenario by contributing to the development of the necessary conditions for more inclusive and sustainable development of small-scale aquaculture producers to increase income, production, and nutrition, especially for the most vulnerable groups. The overall development objective is:

Inclusive and sustainable small-scale aquaculture growth to enhance integrated agriculture nutrition pathways utilizing improved production and market systems approaches to increase the availability of fish, income and dietary diversity, dietary and agriculture practice behavior change, reduce poverty of beneficiary populations, especially women and children, in central and northern Burma.

The *Activity* will ensure that fish production in areas distant to the Ayeyarwady Delta will provide fish closer to fish deficit areas while promoting market systems and value chains to deliver food-safe fish and fish products to local markets. This will be accompanied by activities in the nutrition and WASH areas, to ensure a more integrated approach that comprehends various aspects of small-scale aquaculture. More specifically, the objectives for each of the three dimensions are:

1. Increase small-scale aquaculture production through strategic activities including improved land and water use, increased access to high-quality inputs (feed, seed, and equipment), capacity development and research into production, and access to credit.
2. Further, develop and utilize market-based system approaches (MSA) to increase access to food, and safe fish and fish products.
3. Enhanced nutrition and WASH practices delivered via social behavior change communication (SBCC) activities.

## 4. Targets

The *Activity's* three components are increased SSA production, leveraging market actors, and nutrition and WASH interventions. This will target the small-holder farmers who own small ponds in the five selected States/Regions. In addition, some fisherfolk operating in the Shan lakes (Inle and Pekhon) will be assisted with improved post-harvest activities. These farmers and fishers comprise the *Activity's* direct beneficiaries. The *Activity* aims to reach at least 10,000 SSA farmers during the life of the *Activity* (LoA). These farmers will be provided with SSA interventions in fish stocking management, better management practices (BMPs), efficient use of inputs, access to credit, and access to markets. Increased production will in turn improve the livelihoods and increase incomes of these farmers and their households (HHs). Yield (production/unit area) will be another parameter set to assess the performance of the project. Initially, the fish production target set for the project is 3,000kg/ha<sup>6</sup>.

The second component of the project is about market systems and how the different market actors, hatcheries, nurseries, wholesale operatives and retailers' function in different markets under varied conditions. All the market actors work in a complex environment, however, are interconnected and dependent on each other. The existing value chains will be analyzed, and all these market actors would be linked efficiently and effectively to boost the market worth as a result of project interventions. The value of annual sales of the farmers linked with the market and major actors would be the benchmark to assess the project performance. The target set for the project is to achieve USD 10 million in sales from the SSA production in intervention areas during the five years.

The third component focuses on improving nutrition and the adoption of effective WASH behaviors among project participants. The approach is to provide information on basic nutrition and WASH at the household level, including distribution of WASH hardware and seed kits as well as an assessment of barriers and the enablers among the target group to facilitate change of behaviors, thereby achieving good nutrition. The primary target for nutrition and WASH interventions would be deprived women and children under the age of five. These services will also be provided to the targeted smallholder farmers.

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<sup>6</sup> As noted previously, the baseline data collection using a recal method came up with a fish production yield skewed by inflated production claims. The latter possibly caused by farmers' desire to impress – and hence be selected as 'model' farmers. Independent midline and performance assessment studies indicate much lower fish yields – in part due to the triple crisis: climate change, C-19 and coup.

## 5. Approach

The WorldFish mission in Burma focuses on the improved production of aquatic food for enhanced human nutrition either from Small-Scale Aquaculture (SSA) or small-scale artisanal fisheries both inland (freshwater) and inshore (coastal and estuarine). Small-scale farmers are among the most vulnerable groups to external shocks and there are no sufficient measures and strong enough institutions to create safety nets and protection. As such, the small-scale aquaculture sector in the country remains underdeveloped and fragile, putting at risk the livelihoods of the ones affected. The potential for development is enormous and much can be achieved by providing the country with the technological, financial, and policy tools to restructure itself.

Smallholder farmers, typically rice farmers, are sometimes involved in rice-fish or freshwater aquaculture activities. However, the aquaculture environment they are involved with, presents multiple barriers, such as poor fish species diversification and availability of quality fish seed, regulatory limitations on land and water use, unsustainable practices, low productivity, limited /no access to the market and the impacts of climate change. Changing, or adapting to, these conditions to more favorable ones, would boost the aquaculture potential and the sub-sector's ability to respond to the increasing demand for fish and at the same time improve the livelihoods of poor smallholders. Indeed, most of the individuals that rely on small-scale production are food insecure. The human nutrition quality such as dietary diversity and food safety undermines the overall well-being and health of the smallholder population, especially child-bearing women, and young children.

To address the challenges discussed above, WorldFish with financial assistance from USAID is implementing the five-year F4L *Activity*, which has now been extended for a further three years to 14 September 2027. For timelines see table 1 below.

Table 1: Timelines WorldFish and USAID wotj associated budgets

Fish for livelihoods timeline, years, and budget				
WorldFish Years	USAID years	Payment modality	USD WF actual	Budget v actual
1	Year -2 2019-2020	Advance payment mode	2.0 M	2M no underspend
2	Year -1 2020-2021	“	2.0 M	2M no underspend
3	Year 1 2021-2022	Reimbursement Mode	2.3 M	2.5M USD 0.2M underspend
4	Year 2 2022-2023	“	2.8M	3.0M USD 0.2M underspend
5	Year 3 2023-2024	“	3.2 M	Assumed USD 0.2M under
6	Year 4 2024-2025	“ & Costed Extension	3.4 M	
7	Year 5 2025 - 2026	“	3.0 M	
8	Year 6 2026-2027	“	2.3 M	
		<b>Total</b>	<b>21M</b>	<b>USAID years 1-6 USD17M</b>

## 6. Geographical Focus

F4L focuses on five inland states and regions in Central and Northern Burma:

- Central Dry Zone: Mandalay, Magway and Sagaing
- North: Shan (East and South) and Kachin

These areas present more challenges to aquaculture development and livelihood opportunities. The growth in aquaculture can play an important role in changing this scenario by increasing production and income opportunities. A detailed mapping of the target townships and their characteristics was developed after the scoping study, which helped to clearly identify the areas of intervention and beneficiaries. Figure 1 shows the intervention townships within the selected States/Regions where the *Activity* operates in Burma.

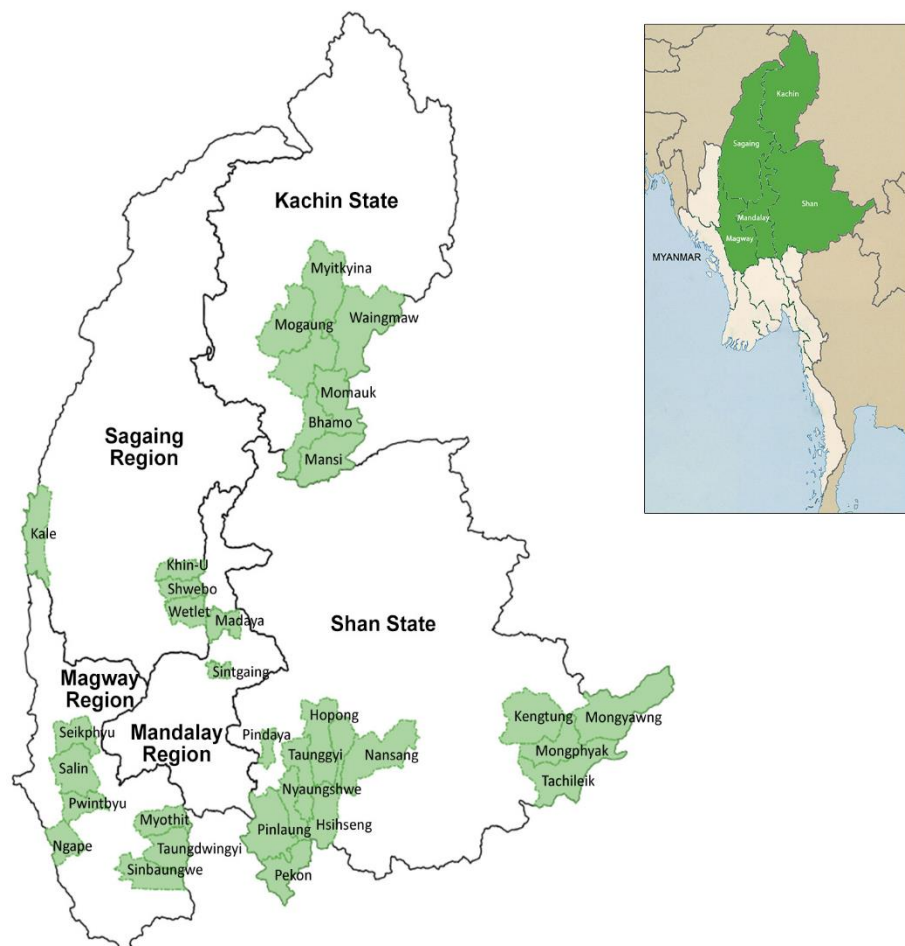


Figure 1: Townships where F4L operates in Burma

## 7. Workplan Progress

### IR 1. Small-scale aquaculture production increased by improved land and water use, together with increased access to information, high quality inputs and credit.

#### *Sub-IR 1.1 An enabling environment is created to increase the engagement of farmers in commercial aquaculture production (water, land use and market knowledge)*

##### **Context:**

The F4L *Activity* and sub-grantees continue the provision of extension services and technical support to the Y3 and Y4 SSA farmers (for the definition of intervention years please Table 1 above). The F4L *Activity* reached 152 villages and conducted a farmer identification process that selected 1,241 new farmers for the implementation of the Y4 *Activity*. The selection of new townships for Y4 is summarized in table 2 below enlisting the numbers of villages and SSA farmers selected including nursery operators and feed millers.

**Progress:** The F4L farmers attended Small-Scale Aquaculture modules and/or refresher training learning fish farming by utilizing the existing farm facilities added by small-scale aquaculture techniques. SSA Modules training led SSA farmers to use high-quality inputs at subsistence farms. F4L provided extension services, technical support, and quality seed were provided to both Y3 and Y4 SSA farmers.

In the Central Dry Zone, the topography is dynamic where water resources are scarce, the identification of correct ponds is critical based on the hot weather, less rainfall, and late and short-term riverine water availability to meet pond-based subsistence small-scale aquaculture. The lack of a comprehensive aquaculture information base, proven management approaches and technologies for scaling out suitable innovations, a poorly developed domestic market, and, most crucially, access to extension services are challenging. Previously before the F4L Activities, SSA farmers practiced traditional farming methods with limited quality inputs.

F4L promotes improved aquaculture practices and the ability to keep records and calculate the profitability of the food production businesses. Increased family earnings come through through higher yields and employment options, which in turn lead to higher net incomes by promoting SSA farmers' aquaculture practices to increase food-safe fish production.

*Table 2: Numbers of new farmers of Y4 including nursery operators and feed millers.*

States/Regions	Township	Numbers of Village	Numbers of New SSA Farmer
<b>Kachin</b>	Bhamo	4	9
	Mansi*	4	29
	Mogaung	5	14
	Momauk	2	5
	Myitkyina	5	8
	Waingmaw	14	43
<b>Sub-total</b>		<b>34</b>	<b>108</b>
<b>Mandalay</b>	Singaing*	6	196
<b>Sub-total</b>		<b>6</b>	<b>196</b>
<b>Magway</b>	Myothit	5	59
	Pwint Phyu	7	105
	Taungdwingyi*	2	19
	Seikphyu	2	30
	Sinpaungwe*	5	39
<b>Sub-total</b>		<b>21</b>	<b>252</b>
<b>Sagaing</b>	Shwebo	22	150



States/Regions	Township	Numbers of Village	Numbers of New SSA Farmer
	Wetlet	8	80
<b>Sub-total</b>		<b>30</b>	<b>230</b>
<b>Eastern Shan</b>	Mongyawng*	8	60
	Kengtung	8	70
	Monghpyat	9	30
<b>Sub-total</b>		<b>25</b>	<b>160</b>
<b>Southern Shan</b>	Hsihseng*	11	52
	Nyaungshwe	6	106
	Phekon	14	83
	Pinlaung	5	54
<b>Sub-total</b>		<b>36</b>	<b>295</b>
<b>Grand Total</b>		<b>152</b>	<b>1,241</b>

\*New township in FY 2023

- 1.1.4.1 Delivering training on SSA, nutrition, gender, and COVID-19 to *Activity* participants (including fishermen) and their family members through sub-grantees (NGOs, MFF and CBOs/CSOs)
- 1.1.4.2 Delivering training sessions on SSA, nutrition, gender, and COVID-19 to *Activity* participants through hatchery operators, nursery operators, feed millers, feed traders, CSOs and CBOs
- 1.1.4.3 Disseminating extension materials (leaflets, booklets, posters, guidebooks, videos, etc.) on SSA, nutrition, market, COVID-19, etc. to relevant target groups (grow-out farmers, nurseries, hatcheries, traders, feed millers, retailers, wholesalers)
- 1.1.4.4 Improving access to information on SSA, nutrition, market, COVID-19, etc for the *Activity* participants (direct, secondary) through Shwe Ngar, Htwet Toe, and Greenway apps.
- 1.1.4.5 Capacity building of SSA farmers through Farmer to Farmer (F2F) *Activity*

Business planning was offered through F2F in Y3. The F4L *Activity* enhanced and built the capacity of direct beneficiary farmers and SSA entrepreneurs through the Farmer to Farmer (F2F) and the F4L *Activities* joint program. The trained SSA farmers and entrepreneurs gained knowledge on developing business plans in their respective businesses. This will bring clarity to the decision-making process regarding key aspects of the business such as capital investments, resourcing, and marketing for small-scale aquaculture. Moreover, the plans will help them successfully launch a business with minimum risk under current circumstances and move forward with a clear direction. Business planning of SSA farmers carried out in all states and regions under the F4L project is summarized in Annex 1.

- 1.1.4.6 Lessons Learned Workshops (LLWs) among *Activity* participants in all States and Regions

First time for SSA farmers of Magwe, Mandalay, and Sagaing, two workshops were convened in Magwe on May 9, 2023, followed by another workshop held in Taunggyi for selected SSA participants of Mandalay and Sagaing in May 22-23, 2023, respectively. 16 participants (Male 16, Female 0) participated in Magwe whereas 60 participants (Male 39, Female 21) joined Taunggyi. (Annex 2)

### ***Sub-IR 1.2 Efficiency of aquaculture production systems increased***

### **Output 1.2.1 Farmers adopted improved fish farming practices in a range of production systems (e.g., ponds, rice-fish systems)**

#### **1.2.1.4 Best Management Practices (BMPs) guidelines development for nurseries, hatcheries, and feed millers**

**Context:** Best Management Practices (BMP) support SSA farmers, hatcheries, nurseries, and feed mills in boosting the productivity, profitability, and sustainability of their fish farming and manufacturing processes while ensuring safer food and better nutrition for the consumers.

**Progress:**

A consultant was hired in February 2023 to conduct a necessary survey to sample the F4L SSA farmers, hatcheries, nurseries, demonstration ponds, and feed millers over BMPs to develop BMP guidelines for them. The proposed guidelines are in Annex 3.

Data collection to produce safe fish and fish products by SSA farmers, the project developed BMP checklists and monitored SSA farmers at all stages of their farming practices, from pond preparation to fish marketing, to increase production, encourage more efficient land use and natural resource management, and ensure safe farm-to-plate fish production. To confirm a pond as a BMP pond, the farmer must adhere to at least three BMP parameters. In BMP checklists, 10 parameters were designated to measure farmers' adoption of BMP practices, and the project checked farmers' practices against the checklists.

#### ***Sub-IR 1.3 Increased access to credit and financial instruments***

**Context:** Access to financial loans has always been a challenge for smallholder aquaculture producers, and the F4L project addresses this challenge so that all benefits flow to smallholders and farmers. Financial resources would increase the purchasing power of farmers, enabling them to buy additional inputs (seed and feed). These inputs result in improved outputs as productivity increases. Hence, higher financial resources have benefitted farmer production and income.

**Progress:** No intervention in Mandalay, Sagaing, and Southern Shan. In Magway, the F4L implementing partner, PACT provides cash grants to SSA farmers, nursery operators, and grow-out farmers, and a community-managed revolving fund or farmers group revolving fund was established. Cash grants and revolving funding for farmers are two alternatives that are linked to one another. The goal of the SSA group fund is to provide loans to SSA farmers for fish farm investments such as acquiring farm materials, labor costs, and services. The loan was only to be used to invest in a fish farm. Following the formation of farmer groups, the project supported cash grants (subsidies) to SSA farmers. Each farmer then contributed 5-10% of his or her cash grant to the SSA group fund, which is then loaned to member farms. Saving is a one-time event (no more monthly savings). The SSA group committee oversees the revolving fund process. After a member meeting, the committee will keep the group fund and make loans to farmers. The committee will then collect the repayment in accordance with the schedule. The loan duration varies by group (1 - 6 months). The interest rate is also variable, ranging from 0.5 to 5% per month. When the loan term expires, the borrower only must pay it back once. There is no set repayment plan and borrowers must repay both principal and interest at the same time. Late repayment penalties must be paid.

In Year 4, the selected 252 SSA grow-out farmers and 2 nursery farmers were provided farmer subsidies for pond preparation and purchasing of farm inputs such as seeds, fertilizer, lime, and farm materials. A total of MMK 50,000 was provided to each SSA farmer, and MMK 300,000 was provided to each nursery farmer in the form of subsidies. 12,600,000 MMK for 252 SSA farmers and 600,000 MMK for two nursery farmers were provided as subsidies.

### ***Sub-IR 1.4 Increased access to fish seed through engaging and strengthening linkages between private and public sector***

**Context:** Although fish seed is essential for aquaculture development, high-quality seed is sometimes unavailable for SSA farmers or in short supply with a high cost.

**Progress:** The two main annual peak seasons for stocking seed are in June, July at the beginning of the monsoon, and October, at the late monsoon. The Central Dry Zone for example. Most farmers under the F4L project are in favor of stocking more fingerlings whether provided by the F4L or by themselves apart from the F4L-recommended species, wild fish seed from nature are stocked in the production ponds to get more benefits at harvest. The wild seed is bought from artisanal fishers fishing in the riverbanks and the wetlands. However, they are seasonal, in mixed species of less quality, less healthy, and limited in quantity. A quarter of a century ago in Bangladesh the fish seed from the wild only amounted to 2.5% of the total. Now almost 100% of seed comes from hatcheries/nurseries<sup>7</sup>. F4L encourages hatchery/nursery operations to provide quality fish for stocking. The collection of seed from the wild is a practice

Nursery management is aimed at providing the pond preparation effectively to eliminate factors causing poor survival and unsatisfactory growth while ensuring the availability of a sufficient quantity and quality of natural food for nursery-reared fingerlings to be stocked. In the F4L-targeted communities, individuals possessed suitable land and water resources which are a keen interest in small-scale aquaculture production. SSA farmers prefer the quality of fingerlings and easy-to-access purchasing process at the village level at accessible distances.

1.4.2 Linkages between fish farms, nurseries, and hatcheries are strengthened and established

1.4.2.1 Sign contracts with private hatcheries, and build their capacity and management practices to increase the availability of improved seed in the ZOI

1.4.2.2 Assess the performance of model hatcheries (carp or tilapia) and nursery systems established in year 1 and share key learning with new hatcheries and nurseries

The *Activity* is ongoing, and it will be carried out if it is opportune in Y5.

1.4.2.3 Develop a business plan for sustainable carp hatchery management (MYCulture documents for ref)

The *Activity* is ongoing. Business planning was offered at all project intervention states and regions this year Y4, but this specific planning focused on sustainable carp hatchery management will be done in Y5.

1.4.2.4 Develop a breeding plan for improving the quality of broods and offspring and reduce inbreeding (Hamilton document)

The *Activity* is ongoing and the F4L team will discuss further details of the breeding plan for improving the quality of broodstock and offspring to reduce inbreeding in consultations with hatchery operators.

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<sup>7</sup> <https://www.adb.org/sites/default/files/evaluation-document/35933/files/aquaculture-ban.pdf>

1.4.2.5 Facilitate scaling of model hatchery (carp or tilapia) and nursery systems by the selected private and public sectors using BMPs together with distribution networks during the following years (cost-sharing with private sector)

The *Activity* continues technical assistance to the F4L-supporting hatcheries and nurseries in producing hatchery-reared quality seeds and nursery-reared fingerlings in Y4. BMPs for hatchery and nursery will be offered to hatchery and nursery operators in Y5 to be followed by a survey.

Table 3 displays the number of fish seed and fingerlings produced by the F4L-supporting hatcheries and nurseries in FY 2023 or Y4.

Table 3: Total seed (fry and fingerling) production in FY 2023

Township	State/Region	Seed item	Seed production	Organization
Myitkyina	Kachin	Fry Fingerlings	5,550,000 3,100,000	MFF Kachin
Madaya	Mandalay	Fry Fingerlings	2,500 30,500	WorldFish
Khin U	Sagaing	Fry	500,000	BRAC
Kengtung	Eastern Shan	Fry Fingerlings	900,000 300,000	WorldFish
<b>Total</b>			<b>10,383,000</b>	

Table 4: Number of fingerlings stocked in FY 2023

Township	State/Region	# SSA farmers	Common Carp	Grass Carp	Mrigal	Rohu	Silver Barb	Tilapia	Total	Organization
Hsihseng	Southern Shan	132	16400	54900	2000	32600	3250	-	109150	MFF Southern Shan
Pindaya		69	11550	21000	-	-	-	-	32550	
Kengtung	Eastern Shan	265	9291	-	-	2486		83854	86340	KMSS Kengtung
Mongphyak		49	8217	-	-	3667		21691	33575	
Mongyawn		83	53641	-	-	2338		28271	84250	

1.4.2.6 Technical assistance to the carp hatchery operators and brood stock development (1.4.2.2)

700 Mrigal carp (*Cirrhinus cirrhosus*) broodfish were given to the U Hla Kyaw Hatchery in Nyaung Shwe, Southern Shan. To make assurance in quality and genetic hereditary, the same brooder supporter of Y2 was selected with the guarantee to replace mortality on live transportation from the source to the hatchery. The hatchery shared the costs of packaging, transportation, and other things.

Table 5: Brooders of Rohu and Mrigal to the F4L-supporting hatchery in Y4

Township	Species	Aged (Year)	Weight (viss)	Nos of Brooders	Unit Cost in (MMK)	Total Cost in (MMK)	Total Cost in (USD)*	Source
Nyaung Shwe	Mrigal	1.5	0.5	700	6,000	4,200,000	2,020	Twany, Yangon

\*1 USD=2080.0832 MMK as of 17 Feb 2023 by WorldFish

1.4.2.7 Define BMP and HACCP certification needs for hatcheries and nursery with certification organizations

This *Activity* was not possible to carry out in Y4 because of the nationwide political conflicts although a simple form of local ‘certification’ is being promoted by the adoption of the BMP.

1.4.2.8 Extend technical assistance to the GIFT hatchery partners (multiplication and brood stock development)

The *Activity* is ongoing, and it will be carried out if it is opportune in Y5.

1.4.2.9 Capacity building training for nursery operators and FCs on how to produce Sex Reversed Tilapia (SRT)

The *Activity* is ongoing, and it will be carried out if it is opportune in Y5.

1.4.2.10 Promote and support nurseries to produce Sex Recersed Tilapia (SRT)

After renovation and modification of the hatchery, and participation in the F4L-sponsored hands-on training at Nam Sai Farm of Thailand in Y3, the owner and operator of U Myint Lwin Hatchery based in Madaya, Mandalay produced 2,500 numbers of SRT fry in the 3rd week and 4th week of March 2023. F4L continues the technical support required by the hatchery in Y4 this year. A farm visit made by WorldFish’s Director General Essam Yassin Mohammed, and Director of Southeast Asia and the Pacific and Chief of Party of F4L Project Michael J. Akester encouraged the owner and associates in the further production of SRT enhancing moral support at the time country’s political tensions do not favor a mass production.

1.4.2.11 Provide Induce Breeding training to Carp Nursery farmers

Induced breeding training of common carp (*Cyprinus carpio*) and silver barb (*Puntius gonionotus*) was offered to 13 participants (Male 12, Female 1) comprising nursery operators, demonstration farmers, and aquaculture promoters of Kachin at MFF Kachin office in Myitkyina followed by hands-on breeding by all participants at the Hpauyu Tu Myat hatchery in Myitkyina, Kachin. (Annex 4)

Another training was offered in Eastern Shan attended by 41 SSA farmers (Male 31, Female 10), 2 nurseries farmers, 1 demonstration farmer, 15 APs and 9 grow-out farmers, 12 family members, 2 observers from Kengtung, Monghpyak and Mongyawng, and 8 KMSS staff on Feb 9, 2023. In total, 32 kg of common carp were induced to breed, with 15 kg of female broodstock and 17 kg of male broodstock. Farmers learned theories and practices, such as how to identify male and female fish, sample fish weight, and hormone solution, collect fertilized eggs, and feed fry.

1.4.2.12 Exposure visits for hatchery and nursery owners to private sector hatcheries and nurseries and aquaculture systems (Bangladesh)

Upon request by WorldFish Burma and consultation with WorldFish Bangladesh, it has agreed to receive the Burma team in 2024. A team consisting of two Field Coordinators and two hands-on hatchery operators under the F4L program will be chosen in consultation with Field Coordinators and the Implementing Partners.

***Sub-IR 1.5 Increased availability and access to quality affordable feed using agricultural coproducts by farmers***

***Output 1.5.1 Improved feed formulation adopted by small and commercial feed mills***

1.5.1.1 Facilitate implementation of additional fish feed grants based on ideas generated from year 3, and organize consultation meetings with feed millers and ingredient suppliers

The *Activity* is ongoing, and it will be carried out if it is opportune in Y5.

1.5.1.2 Provide training for feed mill technicians and feed mill operators

Fish feed production training was offered to 10 participants (Male 7, Female 3) comprising nursery operators, demonstration farmers, and aquaculture promoters of Kachin at the Hpauyu Tu Myat hatchery in Myitkyina, Kachin on March 31, 2023.

*Table 6: MFF Kachin offered fish feed production training.*

No	Date	Township	Place	Male	Female	Total
1	31 Mar 2023	Myitkyina	Cartel Hotel	7	3	10

In Mandalay and Southern Shan, the F4L implementing partner, BRAC delivered feed milling training after the selection of a prominent feed miller in May 2023, and to 11 interesting SSA farmers (Male 9, Female 2) in Sintgaing in June 2023. Besides, the other feed mill training was delivered to 8 farmers (Male 8, Female 0) in Nanhsam of Southern Shan in September 2023, respectively.

*Table 7: Formulated fish feed production by the F4L-supporting feed millers in Y4*

States/Regions	Township	Viss [kg]
<b>Magwe</b>	Pwint-phyu	544.50 [340]
	Salin	359 [224]
<b>Mandalay</b>	Madaya	1,100 [687]
	Singaing*	2220.5 [1,388]
<b>Sagaing</b>	Khin U	13,760 [8,600]
	Shwebo	5,085 [3,178]
	Wetlet	25.50 [14]
<b>Southern Shan</b>	Nanhsam	480 [300]
	Pindaya	420 [263]
	Taunggyi	8,649.60 [5,406]
<b>Total</b>		20,400 kg

\*New township of Y4

Note: Feed mills in Nanhsam and Singaing are new feed mills in this Y4.

F4L training provided information on the formulation of feed by using alternative locally available feed ingredients, the calculation of protein content from the mix of ingredients, and storage of both raw ingredients and final feed in pellet form. Trainees mixed feed themselves on the farm using available ingredients in the optimal formula before transforming into pellets by utilizing an extruder. Examples on how to calculate the Feed Conversion Ratio (FCR) were provided from feed fed and weight gain recorded along with fish mortality estimations.

Because of the unaffordable prices of both domestic and international formulated fish feed, SSA farmers cannot afford to buy feed on a regular basis. 74% of SSA farmers rely on rice bran as a primary feed for fish growing in their ponds. Oilcakes whether from peanut or sesame or other are common types of fish feed next to rice bran. However, edible oil byproducts and rice bran are also used for livestock feed production with the bulk of the high quality production exported to China. The latter makes the products expensive and at times only the poor-quality rejected products being available in the market place.

In the Central Dry Zone, the project educates farmers on feed quality and fosters production and demand for high-quality feeds. To supply high-quality feed, promote the development of the feed market, and empower fish farmers to improve their pellet feeding practices, the project will equip one focal farmer from each of the project townships with a mini-pellet feed mill after identification of the feed miller. Currently, all SSA farmers in the project townships use local fish feed such as rice bran and oil cake. By facilitating a market linkage, the project will strengthen the connection between grow-out fish farmers and feed millers.

Feed millers are still working hard to sell formulated pellet feed to other farmers because grow-out farmers are using rice bran as their main fish feed as it is readily available and less expensive than pellets. Besides the difficulty in obtaining fish meal and the inflated cost of fuel, feed millers are unable to produce formulated pellet feed on a consistent basis or sell it to others for a reasonable price. Hence, the F4L project will need to determine how to make pellet feed from locally available materials, including rice bran and oil cake. It will also be necessary to promote feeding practices and regimes on farms.

1.5.1.3 Assess the performance of feed ingredients on tilapia and silver barb and share learning with *Activity* participants and indirect beneficiaries. Continue with feed trials

The *Activity* is ongoing, and it will be carried out if it is opportune in Y5.

***Sub-IR 1.6 Enhanced capacity and role of MFF and its associations in supporting SSA for improved management practices***

***Output 1.6.1 Institutional analysis of MFF performed and alternatives to enhance their capacity identified***

**Context:**

**Progress:**

1.6.1.1 Provide support to build institutional capacity of MFF as recommended by consultant hired in year 1

1.6.1.2 Review Y4 proposals submitted by MFF (Southern Shan and Kachin) in relation to developing an inclusive market system and sustainable management practices that benefit the project participants

**Sub-IR 1.7 Enhanced capacity and role of Inle and Pekhon Lake committees in supporting lake and lake fishers for improved management practices**

**Output 1.7.1 Capacities of fishers are strengthened and improved**

*1.7.1.1 Capacity building training and workshops for fishers and farmers on nutrition, WASH, gender, food security, SSA, and Inle Lake conservation*

*1.7.1.2 Assist in generating revolving funds for fisherfolks (45 fishers; 3 groups)*

The revolving fund initiative in Inle commenced in 2020, initially involving 45 fishermen divided into three groups based in the villages of Nyaung-Won, Hae-Lone, and Inn-Phyar. In the first cycle of the project, a total loan amount of 14,625,000 MMK was disbursed to these three groups. The project's initial cycle was considered a success, as it monitored their livelihood activities and income through meticulous record-keeping and data analysis. Consequently, the project proceeded to the second cycle in the year 2021-2022. During the second cycle, the total loan amount was increased by reclaiming 70% of the interest earned by the members in the first cycle, distributing it proportionally among them. Meanwhile, the remaining 30% of the interest earned by each member in each cycle was set aside in a bank account for community development. Their respective savings money used to be taken back to each fisherfolk at the end of each cycle.

At the conclusion of the second cycle, the outcomes showed a favorable effect on the income and situations of the participants. Consequently, the project opted to prolong the loan program into a third cycle in the year 2022-2023. In this third phase, the project broadened its support to encompass two additional groups of fishermen: those from the villages of Hut-Pong and North Kyaik-Kham. The project provided a sum of 8,400,000 MMK to these two groups in 2022-2023. Hut-Pong entered its second cycle in the coming Y5 (2023-2024), while North Kyaik-Kham began its first cycle in September 2023. Hence, the project was able to assist a total loan amount of 2,660,550 MMK to 73 fishermen, divided into 5 groups, from 2022 through 2023.

The loan disbursement amount varies from one cycle to another based on their assessment of how much additional investment is needed for the upcoming cycle. Table 8 illustrates the loan increase amount from year 1 to year 4.

*Table 8: Total Loan Disbursement starting from 1st cycle to 3rd cycle.*

<b>Group Name</b>	<b>Total Members</b>	<b>Funds Provided by Project (MMK)</b>	<b>70% interest in 1<sup>st</sup> cycle (took back as a loan in 2<sup>nd</sup> cycle) (MMK)</b>	<b>70% interest in 2<sup>nd</sup> cycle (took back as a loan in 3<sup>rd</sup> cycle) (MMK)</b>	<b>Total revolving fund in 3<sup>rd</sup> cycle (MMK)</b>
<b>Nyaung-Won</b>	18	5,850,000	819,000	1,134,000	7,803,000
<b>Hae-Lone</b>	15	4,875,000	682,500	945,000	6,502,500
<b>Inn-Phyar</b>	12	3,900,000	-	-	3,900,000
<b>Hut-Pong</b>	14	4,200,000	-	-	4,200,000
<b>North Kyaik-Kham</b>	14	4,200,000	-	-	4,200,000
<b>Total</b>	<b>73</b>	<b>23,025,000</b>			<b>26,605,500</b>

Note that in the case of Inn-Phyar village, they chose not to reinvest 70% of the interest from the first and second cycles as loans but instead placed it in a bank account. They contributed the remaining 30% interest from these initial two cycles, which amounted to 514,800 MMK, towards the



construction of the nursery school building. The continuous growth of the revolving fund *Activity* over the years is evident when considering the total interest and member savings fund. The total amount of interest and savings received by each group in Y4 of the third cycle are shown in Table 9.

Table 9: Total loan disbursement, total interest, and member saving fund of Y4

Group Name	#	Total Loan Disbursement (MMK)	Loan Duration (Months)	Interest Rate (%)	Total Interest (MMK)			Member Saving Fund (MMK)
					70% of total interest	30% of total interest	Total interest	
Nyaung-Won	18	7,803,000	12	2	1,315,440	563,760	1,879,200	928,800
Hae-Lon	15	6,502,500	12	2	1,096,200	469,800	1,566,000	954,000
Inn-Phyar	12	3,900,000	12	2	655,200	280,800	936,000	432,000
Hut-Pong	14	4,200,000	9	2	529,200	226,800	756,000	378,000
North Kyaik-Kham	14	4,200,000	12	2	-	-	-	-
<b>Total</b>	<b>73</b>	<b>26,605,500</b>	<b>-</b>	<b>-</b>	<b>3,596,040</b>	<b>1,541,160</b>	<b>5,137,200</b>	<b>2,692,800</b>

The fund's investment in alternative livelihood activities (Figure 2) during the third cycle has led to an increase in the income of fisherfolk households. The specific increments for each group can be found in Table 9.

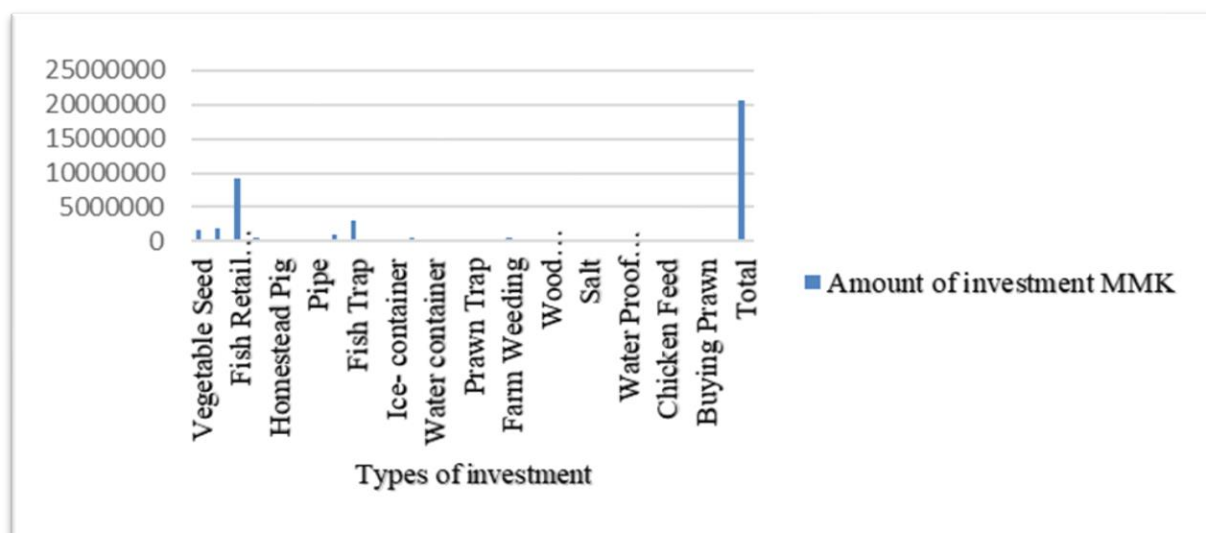


Figure 2: Types of investment made through F4L accessed loans

Due to the increased availability of credit, fishermen have employed the funds to engage in various additional sources of income alongside their fishing activities. As shown in Figure 3, most fishermen have predominantly directed these funds into establishing fish retail businesses. Furthermore, they have also expanded into cultivating vegetables, either for their own use or as a way to generate income for their households.

According to data analysis based on their record books, incomes generated by 59 fisherfolks from different livelihoods activities in the 3<sup>rd</sup> cycle are shown below (Figure 3) the main source of income for the fisherfolks is derived from fresh fish selling, accounting for 62% of the generated income. This is followed by revenue from vegetable production and homestead farms.

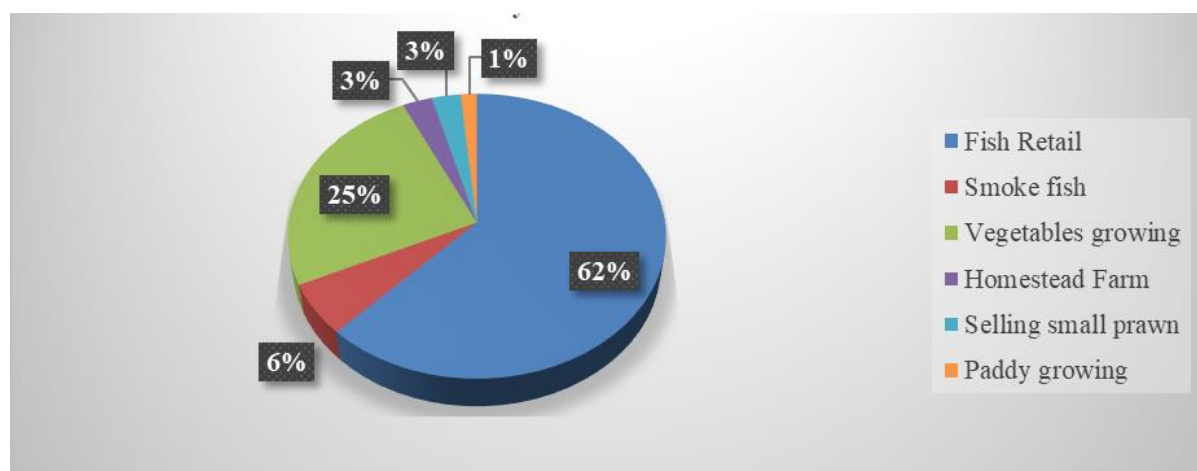


Figure 3: Incomes generated through investments.

Table 10: Income generated from different livelihood activities by 59 fisherfolks in Q3 of Y4.

No	Type of income	Amount of income MMK	Amount of income as a percentage (%)
1	Fish Retail	40,377,550	62
2	Smoke fish	3,800,000	6
3	Vegetables growing	16,218,600	25
4	Homestead Farm	1,810,000	3
5	Selling small prawn	1,765,000	3
6	Paddy growing	974,000	1
	<b>Total</b>	<b>64,945,150</b>	

Every group possesses a fund generated from a 30% interest from every cycle (ranging from the 1st to the 3rd cycle) designated for rural development<sup>8</sup>. These funds remain reserved in their respective bank accounts.

Nyaung-Won village has (1,675,451.19 MMK) and they intend to donate to the village's medical center in coming years.

For Hae-Lone village, it has (1,406,753.05 MMK) and they aim to be involved in the village's temple repair.

For Hut-Pong, it has (288,598.79 MMK) and will be donated to repair the temple in their village.

For North Kyaik- Kham, they target to be donated in the village's overhead pedestrian crossing.

In the case of Inn-Phyar, they initiated a contribution of 514,800 MMK, which was the 30% interest accumulated from both the 1st and 2nd cycles, towards the renovation of their village's nursery school at the outset of the 3rd cycle in October 2022. This renovation not only focused on the school building but also included measures to protect it from flooding. This effort has resulted in a safer learning

<sup>8</sup> Much of the 'rural development' work involves improving structures which ultimately benefit the villagers in times of crisis, e.g., temple renovation is like an insurance policy in that if a home is destroyed by a high wind or flood the HH can shelter in the monastery building and receive food.

environment for the children, and parents and teachers express their gratitude to the members who contributed to the nursery school. However, additional funds are still required. Therefore, the fisherfolk from Inn-Phyar will continue to set aside the 70% interest from the 1st and 2nd cycles, along with the 30% interest from the 3rd cycle, totaling an amount of 1,670,267.71 MMK in the bank account.

Revolving funds have proven to be effective mechanisms for promoting sustainability in both environmental and economic terms. By adhering to principles of effective management, diversified investments, community engagement, and ongoing monitoring and evaluation, funds remain sustainable over time, making a positive impact on the Inle Lake environment. Beneficiaries of these funds are subject to specific rules and regulations outlined by the Myanmar Fisheries Federation (MFF).

According to these guidelines, beneficiaries are prohibited from investing in catfish farming and are strictly restricted from using harmful techniques like battery shocking in fishing to preserve other fish species. Additionally, investing in wetland agriculture, which may lead to pesticide residues in the lake, is also discouraged. The sustainability of revolving funds is essential not only for their continued success but also for the broader goals of sustainable development and a brighter future for all.

Table 11: Income and total revenue generated through revolving funds by each group Sep 2023.

Group Name	Total loan disbursement in Year 4 (MMK)	Total interest (MMK)	Member saving fund (MMK)	Bank Saving (30% of 1 <sup>st</sup> and 2 <sup>nd</sup> cycle) (MMK)	Bank Interest (MMK)	Cash Balance (closing) (MMK)	Total revenue generated through the livelihood activities invested by the fund (MMK)	Net Income by Fisher Households (MMK)
<b>Nyaung-Won</b>	7,803,000	1,879,200	928,800	866,000	134,451	11,611,451	22,222,451	14,419,451
<b>Hae-Lone</b>	6,502,500	1,566,000	954,000	721,500	116,753	9,860,753	18,883,253	12,380,753
<b>Inn-Phyar</b>	3,900,000	936,000	432,000	1,220,200	114,068	6,602,268	11,870,268	7,970,268
<b>Hut-Pong</b>	4,200,000	756,000	378,000	-	24,999	5,358,999	10,692,999	6,492,999
<b>Kyaik-Kham (North)</b>	4,200,000	-	-	-	-	-	-	-
<b>Total</b>	<b>26,605,500</b>	<b>5,137,200</b>	<b>2,692,800</b>	<b>2,807,700</b>	<b>390,271</b>	<b>33,433,471</b>	<b>63,668,971</b>	<b>41,263,471</b>

## IR 2. Access to SSA to domestic markets increased and a consistent supply of food-safe fish and fish products ensured

### Sub-IR 2.1 Clustered production using BAPs to improve direct marketability of product increased

**Context:** Field experience shows there is poor observance of food safety practices and limited understanding of characteristics of quality fish among supply chain actors that result in loss of income because of early deterioration of fish, and consequently, harming the health of consumers. F4L provides training to various actors in the aquaculture fish supply chain to increase their knowledge on

the importance of observing food safety practices and quality control, as well as fish preservation methods that can help boost their income and promote good health and nutrition to consumers.

In addition, F4L links with private sector companies such as media agencies, and financial entities, among others to stir interest in the growth potential of the small-scale aquaculture market in creating income opportunities and for involving women in entrepreneurial activities.

**Progress:** Market actor data was gathered from nurseries, feed mills, and hatcheries, and then shared with farmers and aquaculture promoters during village-level training. In the training or monitoring in the field, project staff share the best aquaculture practices knowledge with the farmers and ask survey questions in the fishponds of the project area.

Market systems are comprised of value chains in which many actors such as traders, retailers, suppliers, and processors are involved at different levels in providing services to farmers. However, available essential market information is fragmented. The F4L collects essential market information in selected townships and communicates it to project beneficiaries using relevant communication tools and mechanisms, including mobile applications. Capacity-building interventions (e.g., training) for private sector actors (traders, processors) and farmers on Better Management Practices (BMP) are being implemented as a part of the program. The project promotes a group approach to fish production, input procurement, and product marketing. In addition, the project emphasizes BMP standards as a high-quality approach to every step in the production chain to ensure that products are safe, pure, and effective. By using BMP some hatcheries, demonstration ponds, and grow-out ponds have increased production and shared market information among farmers and non-project farmers.

### ***IR 2.1: Linkage workshop and peer-to-peer learning***

To foster strong connections between producers and market players and enhance the aquaculture value chain, the F4L project organized a one-day linkage workshop and peer-to-peer learning session. The main objective was to enhance relationships and knowledge exchange among various stakeholders including SSA farmers, feed millers, smoke fish producers, and fish retailers. This event took place on September 15, 2023, in Naung Kham village, His Hseng township, and was attended by a total of 27 participants (Male 24, Female 3). During the workshop, representatives from different groups shared their experiences and insights related to their businesses covering aspects such as progress, benefits, challenges, and lessons learned. The MFF Southern Shan facilitated the workshop focusing on evaluating the achievements of the F4L project's interventions. The discussions also centered on identifying challenges planning future activities that align with the local context and creating a platform for interactive learning and collaboration among all involved parties.

### ***Sub-IR 2.2 Reduced post-harvest loss***

#### ***Output 2.2.1: Enhanced capacity of fish processing and fresh fish trading actors to adopt food safety practices***

*2.2.1.1: Workshop to further increase engagement of private sectors e.g., finance institutions, ICT companies' media organizations, and advertising agencies in aquaculture and fish processing markets*

This activity was not carried out because of the non-conducive environment after COVID and the coup.

*2.2.1.2: Provide capacity building and information to fish processors, fresh fish, processed fish collectors/traders, and SSA producers*

In year 4, F4L continued to provide training on good post-harvest and fish handling practices to increase income and enhance the ability of fresh fish vendors, fish processors, and SSA producers to provide safe and fresh fish for consumption. A total of 385 (38% women) participants for good post-harvest training and a total of 127 (50% women) participants for good fish processing training were reached. The training highlighted proper icing of fish, the use of suitable materials for a display of fish, and processing and observance of good hygiene practices. The manual developed in collaboration with Asper Consulting company in previous years was used in F4L areas and other WorldFish projects.

In addition, to understand the current fish handling and hygiene practices among fresh fish vendors in Fish for Livelihoods (F4L) Activity areas: Magway, Sagaing, Kachin, Southern, and Eastern Shan. The F4L team surveyed 51 fresh fish vendors. The results showed the following:

- Only 36% of fresh fish vendors observed basic hygiene and fish handling practices (Figure 4).
- All respondents in Shwebo Township (Sagaing) and Bhamo Township (Kachin) applied basic fish handling practices, while a reverse result was found for Nyaung Shwe Township (Shan), and Salin Township (Magway) where no respondents used the desired practices.

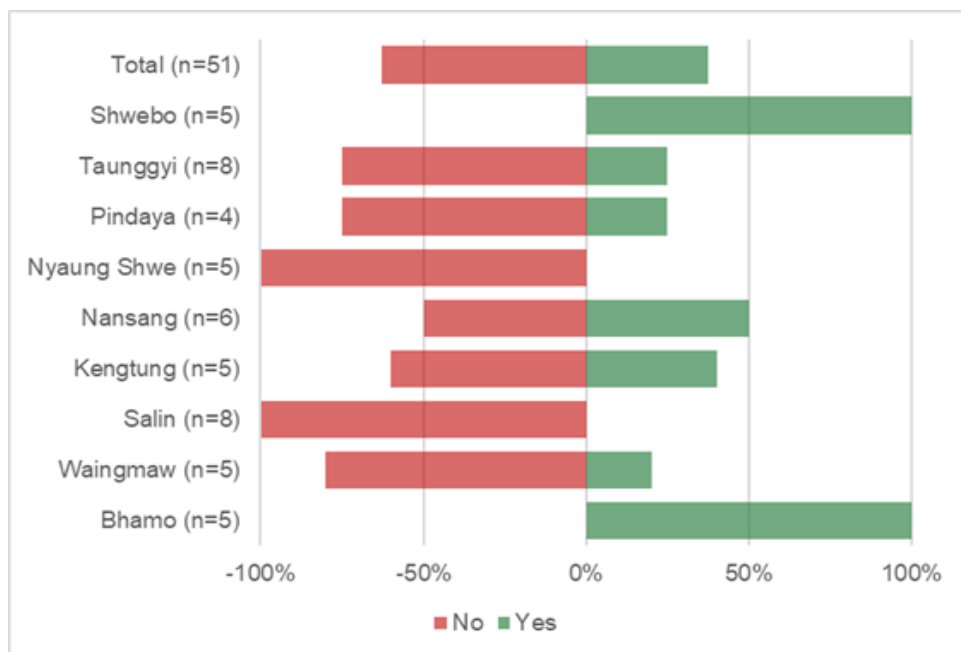


Figure 4: Respondents observing basic fish handling practices by township.

- Good practices observed by over 90% of respondents included the following: 1) not going to work when sick and if at work covering wounds, 2) washing fish after harvest and before storage; 3) separating whole fish from gutted/sliced fish, and 4) keeping the fish away from non-edible products.
- Practices that were difficult to apply were the following: 1) no smoking, spitting, and eating on the premises, 2) observance of proper icing and storage, 3) usage of clean and durable materials, and 4) no contamination from animals and no protection from rain, dust, and sun.

The survey highlighted poor adherence to good fish handling and hygiene practices as most fresh fish vendors did not reach the ‘threshold.’ Some practices are easier to apply than others, so the future focus should be on maintaining adherence to easy practices and encouraging vendors to also apply the more difficult practices.

More difficult practices rely partially on fish vendors' knowledge and partially on the availability of materials. Thus, interventions should focus on a combination of behavioral change and the provision of equipment and low-cost materials such as display racks, aprons, and cooler boxes.

Moreover, creative, and fun activities can be used to encourage good practices and increase momentum in raising awareness such as competitions among fresh fish vendors with consumers as panel members and demonstrations comparing fish and fish products produced and sold using ice vs. without ice at the local markets. Lastly, information education communication (IEC) materials e.g., posters, flyers, and infographics can help highlight misperceptions about purchasing iced fish.

*"2.2.1.3: Pilot test Activity/ies (e.g., competition among vendors, provision of fabricated tables cum fish storage container with ice) that can enhance fish quality for local consumers and improve hygiene and sanitation practices among fish vendors in the local market with the assistance of partners"*

In continuation to the previous year's effort in addressing one of the barriers to adopting good fish handling practices among fresh fish vendors, the F4L team provided durable and good quality fish display racks in selected F4L areas, a total of 43 (95% women) fish vendors received the racks. The vendors contributed to purchasing the racks and are willing adopters of good practices by using and maintaining the display racks.

In addition, to encourage the use of materials provided by the *Activity*, the F4L team piloted a local market competition to reinforce good fish handling behaviors among fish vendors in Kengtung, Nyaung Shwe, Pindaya, and Shwebo Townships. 46 (F 42, M 4) fresh fish vendors participated in the competition, with 82 (F 74, M 8) local consumers joining as evaluators.

The F4L team developed a basic hygiene and good fish handling practices checklist which evaluators used during the competition. The checklist also served as an information material that supported consumers in improving their knowledge on the importance of maintaining the quality of fish by using ice to dispel ice misperceptions and fish vendors' role in keeping the premises always clean to avoid cross-contamination from flies, rodents, and animals which can harm human health. As this was the first time to have this type of event on the market, the consumers felt happy to participate and expect to have a similar *Activity* next year. The winners received prizes such as a cool box, hair net, and apron to acknowledge their efforts and encourage others to follow them. With considerable success this year, the *Activity* will be continued in the next period to increase the participation of local consumers in the area.

#### 2.2.1.4: Construction of improved smoker to improve product quality and increase income among fish processors in Southern Shan

The completion of the pilot improved smoker with the support of an international expert on post-harvest processing has achieved a good rate of success in terms of reducing smoke emission and the improved quality of smoked fish produced. In the coming months, the M&E team will conduct a cost-benefit analysis to find out if it is profitable to use this technology. The below points are crucial in the adoption of the improved technology among local smoked fish processors in F4L areas.

- When supporting smoked fish processors in the future, modify the kiln that make it more women-user-friendly.
- A need to encourage processors to use improved technology so the improved products can be marketed, thereby increasing demand.
- Linking processors to new markets remains a gap due to high compliance standards by the

suppliers/companies.

- A need to consider the readiness of the processor and production volume before initiating the use of innovative technology.

In year five (see table 1), all the above points are considered to ensure high adoption of technology among smoked fish processors to increase income and ensure that good quality products are available in the local communities.

In addition, to widely disseminate the technology, the F4L team conducted a hybrid training (online and in person) among 12 farmers and processors (3F, 9M) at the smoked fish processor's facility in Inle Lake. From the training, the participants gained knowledge of the advantages of using the upgraded kiln and its operation. Although they acknowledged the benefits, they shared that their adoption of the technology will depend on the market demand for smoked fish and their capacity to invest which can be partially supported by the project.

#### 2.2.1.5: Pilot test portable fish drier to improve food safety practices and increase income among Inle Lake fish processors

For this year, the F4L team distributed a total of 8 low-cost portable fish driers to small-scale fish processors in Hsisheng and Nyaung Shwe Townships in Southern Shan. The driers were designed to prevent contamination from flies, rodents, and animals which can be harmful to health. Additional features of the drier are stackable and lightweight so it can be stored easily when needed. The driers will support in production of quality dried fish that help increase income among processors and improve health and nutrition among local consumers.

For the upcoming year, F4L will explore supporting a simple solar dryer in Inle Lake after meeting a dried fish processor who shared her challenges (e.g., lack of space and use of traditional methods) in expanding her business in the lake. She mentioned that using a solar drier made of bamboo and polyethylene sheets which she can use especially during rainy and winter seasons (peak time) to prevent molds and insect infestation can help her in adopting good practices and can support in increasing income, especially during this crisis period.

#### ***Output 2.2.2: Increased business opportunities around fish processing***

##### **Context**

While aquaculture farming remains a male-dominated *Activity* in Burma, post-harvest activities such as selling, marketing, and processing are commonly led by women resulting in increased income and better nutrition for the family (Aregu et. al., 2017). However, there are gaps of information that are focused on supporting the improvement of methods and processes of small-scale fish processors, fresh fish and processed fish traders, retailers, and wholesalers, thus, F4L engages experts that use bottom-up and gender-inclusive approaches to help create applicable business models and innovative technologies that will improve quality of fish products resulting in increased income and good nutrition and health among local consumers.

*2.2.2.3: Conduct workshops and meetings on cold chain management (i.e., improved packaging techniques and materials to minimize post-harvest loss) and explore opportunities on how to develop cold chain, business models.*

Based on the results from the cold supply chain management survey, F4L implementing partners were able to discuss during the planning workshop the interventions that can be applied in the areas for the upcoming year. The below points stood out during the discussions:

- When developing IEC materials, messages can focus on effective methods of preserving fish e.g., the use of cool boxes and the importance of using clean ice for storing fish.
- Utilize new communication platforms e.g., radio, and TikTok videos, that are popular among target audiences when sharing messages.
- F4L can support ice plant operators in accessing potable water to ensure ice is safe for consumers.
- Conduct demonstrations to compare the quality of fish stored with ice vs. without, this can support persuading local consumers on the benefits.

All points are considered during the upcoming year with the support of the partners including radio channels to ensure messages are disseminated beyond our project participants.

In addition, the F4L team piloted the use of solar freezers by engaging 4 fresh fish vendors who will collectively share the unit in Shwebo township. Initial feedback from the vendors is the following:

- The vendors are happy that the freezer is operational and that they can keep the fish longer without losing income. They expressed that they still need to get familiar with the temperature settings so they can sell the chilled fish (not frozen) at the market.
- Also, they are pleased to support other vendors in storing fish in the freezer. In the coming months, they plan to ask for a minimum fee for storage to help them with the maintenance cost.
- They can save money by not purchasing crushed ice from ice plant operators since they can easily store the fish in the freezer.

In the coming months, the M&E team will conduct a cost-benefit analysis to know if this activity can be replicated to support additional vendors in selling good quality fish in F4L areas.

### **IR 3: Improved Nutrition, Food safety, and WASH**

#### ***Sub-Intermediate Result (IR) 3.1: Improved adoption of nutrition and wash behaviors***

##### ***"Output 3.1.1: Increased awareness on nutrition, WASH and food safety practices"***

###### **Context**

Previous *Activity* experience indicates that there is limited awareness of the importance of good nutrition and WASH and food safety practices among most households, which can lead to poor nutrition outcomes, especially among young children. The F4L team engages Scaling Up Nutrition (SUN) entities, NGOs, the private sector, and communities to gather information on the current nutrition and WASH practices, which includes researching priority groups to help in designing relevant complementary activities and to change behaviors.

*3.1.1.1: Development and printing of communication materials on nutrition and WASH based on the Essential Nutrition Actions and Essential Health Actions messages; including the importance of the consumption of micronutrient-rich small fish (SIS), farming SIS, food safety, etc.*

For this project period, aside from distributing IEC materials on the importance of consuming small indigenous fish species (SIS), and effective WASH practices in the *Activity* areas, the F4L team disseminated key messages on the importance of adherence to good post-harvest and processing



practices to ensure adoption of food safety and good hygiene practices among project participants. Detailed list in Annex 12.

### *3.1.1.2: Dissemination of digitized key nutrition and WASH messages through an online platform to Activity and non-activity participants*

To reach a wider audience beyond the project participants, F4L disseminated over 20 articles with total views of over 1000 people for each post on the nutritional benefits of consuming small fish powder, the importance of handwashing with soap at critical times, observing good hygiene practices and good processing practices in Htwet Toe and Greeway mobile phone application.

*"3.1.1.3: Continue engagement with the established network to increase the extension of key nutrition and WASH messages (e.g. SUN CSA, Nutrition TWG, SAG+) "*

WorldFish continues to engage with key stakeholders in the promotion of the fish agri-food system in the country by being a steering committee member of the Scaling Up Nutrition Civil Society Alliance (SUN CSA) network. A series of meetings were held this year; quarterly meetings (4) and technical working group meetings (4), general assembly (2), and Interim task force meeting (1) that provided an opportunity to get involved in nutrition and health discussions in the country.

## ***Sub-Intermediate Result (IR) 3.2: Improved consumption of diverse, safe, and nutritious food"***

### **Output 3.2.1 (a): Improved knowledge on food safety, vegetable, and mola-carp polyculture production "**

### **Output 3.2.1 (b): Improved access to diverse, safe, and nutritious food"**

#### **Context**

For this year, the focus is on filling the gap of information on the parameters of the macronutrient, microbial, and heavy metal to determine the quality of fish-based processed products that are developed through engagement with the private sector. Fish-based processed products (e.g., dried small fish powder) are a nutrient-dense food that can fill nutrient needs, especially for vulnerable groups. Analyzing these products provides accurate information to consumers.

In continuation to last year, to increase the availability of nutritious and diverse food in rural households where undernutrition and micronutrient deficiencies exist, F4L continues to provide nutrient-rich small fish broodstock for farming and diverse vegetable and fruit seeds for planting in homestead gardens and pond embankments. Since malnutrition is linked to a poor environment and poor hygiene, F4L distributes WASH hardware e.g., latrines, water containers, and soaps to priority groups to facilitate the adoption of effective behaviors resulting in improved nutrition. Furthermore, to spark interest and encourage other households to adopt effective WASH practices and integrated fish agri-food systems, initiatives such as model households and competitions are piloted.

### *3.2.1.1: Provision of seed kits depending on the types of seed identified that are grown in the area for vegetable dyke production among beneficiary households; after the development of vegetable seasonal calendar per area*

To continue promoting an integrated farming system that results in diet diversity among project participants, the *Activity* provided various vegetable and fruit seeds such as pumpkin, long green beans, watercress, bitter gourd, and bottle gourd for vegetable dyke and backyard production to 973 (30% women) farmers with a total 4,875 HH members reached in 17 Townships. Through vegetable

growing, farmers can consume fresh, chemical-free vegetables and can share the harvested crops with their families and neighbors. A surplus of vegetables is sold, providing farmers with additional income to support their families. See below for more detailed information.

Table 12: No. of HH members benefited from F4L vegetable seeds distribution.

Implementing Partners	Areas		# of HHs distributed		# of HH members	
	Region/State	Township	Men	Women	Men	Women
<b>KMSS Kengtung</b>	Eastern Shan	Tachileik	39	20	158	129
<b>KMSS Kengtung</b>	Eastern Shan	Monghpyak	19	11	93	81
<b>KMSS Kengtung</b>	Eastern Shan	Kengtung	158	59	615	607
<b>BRAC</b>	Southern Shan	Nyaungshwe	55	49	223	233
<b>KMSS Pekon</b>	Southern Shan	Pekon	84	6	234	178
<b>KMSS Pekon</b>	Southern Shan	Pinlaung	97	7	195	187
<b>MFF SS</b>	Southern Shan	Hsihseng	2	3	10	9
<b>MFF-Kachin</b>	Kachin State	Bhamo	8	3	36	28
<b>MFF-Kachin</b>	Kachin State	Momauk	8	2	31	29
<b>MFF-Kachin</b>	Kachin State	Moegaung	16	6	49	76
<b>MFF-Kachin</b>	Kachin State	Myitkyina	14	2	73	38
<b>MFF-Kachin</b>	Kachin State	Waingmaw	52	3	282	327
<b>MFF-Kachin</b>	Kachin State	Mansi	26	37	82	79
<b>BRAC</b>	Sagaing	Shwebo	24	44	120	131
<b>BRAC</b>	Sagaing	Wetlet	22	28	93	101
<b>PACT</b>	Magway	Seikphyu	19	6	58	75
<b>PACT</b>	Magway	Myo Thit	35	8	109	114
<b>PACT</b>	Magway	Pwint Phyu	47	28	197	180
<b>PACT</b>	Magway	Sinbaungwe	22	16	81	78
<b>BRAC</b>	Mandalay	Sintgaing	103	93	389	357
<b>PACT</b>	Magway	Taungdwingyi	17	2	45	41
<b>Total</b>			<b>678</b>	<b>295</b>	<b>2453</b>	<b>2422</b>

### 3.2.1.2: Provision of Small Indigenous Fish species (SIS) broodstock among beneficiary households

For this year, after stocking large fish in homestead ponds, 366 farmers (40% women) reported integrating indigenous small fish species (SIS) such as mola, Burmese loach, and flying barb in their ponds, increasing the total productivity of the ponds. While large fish are sold for income, SIS can be partially harvested and can be consumed every week without spending money. SIS eaten whole with vegetables provides a nutritious meal for the family.

### "3.2.1.3: Distribution of WASH package materials (e.g., handwashing stations with soap, toilet bowls, water filter) to increase adoption of improved WASH practices among beneficiary households"

For this year, the Activity distributed 284 (46% women) handwashing containers, 215 (82% women) toilet bowls with pipes, and 64 (28% women) plastic tanks for flushing to facilitate the adoption of effective WASH practices among project participants. The handwashing containers are installed in the kitchen or near the toilet so that family members can wash their hands after using the restroom and before preparing meals. In addition, nutrition and WASH knowledge were shared with every family

member, including children and the elderly through aquaculture promoters and community facilitators with emphasis on clean water, clean hands, clean food, and clean toilets, as well as proper hand washing techniques. Aside from providing WASH materials, implementing partner staff provided training on making liquid soap to ensure handwashing with soap is adhered to by project participants.

*"3.2.1.4: Establishment of integrated Agri/fish-food system model households in 6 geographical areas; model HHs will have large + SIS in ponds, homestead garden, improved latrine, water filter, and tippy tap"*

*"3.2.1.5: Competition of best-integrated Agri/fish food system in selected Activity areas (large + SIS in ponds, homestead garden in dyke or backyard, improved latrine, water filter, and tippy tap)"*

For this year, implementing partners identified a total of 15 SSA households in Hsihseng, Pekhon, Myitkyina, Waingmaw, Mogaung, Mansi, Momauk, and Bhamo that applied integrated fish agri-food systems and adopted effective WASH practices by using improved latrine, drinking filtered water and practice handwashing with soap at critical times. The homestead of SSA households serves as a demonstration site for other farmers so they are encouraged to apply the same which can support to increase in income and improve nutrition.

*3.2.1.6: Conduct of minimum dietary diversity for Women (MDDW) survey to determine the dietary diversity score of women of reproductive age in Activity participating households*

In Year 4, WorldFish conducted the minimum dietary diversity for Women (MDD-W) survey among 543 women of Y1, Y2, and Y3 SSA household farmers from 26 townships in Magway, Sagaing, Mandalay, Kachin, Eastern, and Southern Shan. The survey explored whether women, 15-49 years of age, consumed at least five out of ten defined food groups during the previous day or night. The results of the MDDW survey will provide key information regarding the micronutrient adequacy of groups of women who achieve minimum dietary diversity and who are therefore likely to have higher (more adequate) micronutrient intakes than groups of women who do not. WorldFish is in the process of data analysis and will compare the results from the previous year to determine the effectiveness of the intervention. The findings will be disseminated when completed.

*3.2.1.7: Pilot test open-pollinated vegetable seed production in the selected area.*

For the project period, the *Activity* piloted the production of local vegetable seed varieties with technical support from a national expert agronomist to reduce reliance on hybrid seeds that are not adapted to local conditions in Southern Shan. The F4L team selected two seed production farms and provided theoretical and practical training on open pollinated seed production method in Pindaya township with a total of 15 SSA farmers (M=10, F=5).

After the training, an expert agronomist conducted a series of field demonstrations in Pindaya and Nyaung Shwe Townships to guide farmers on the production of the seeds (Bush type bean, Yard long bean, Okra, Amaranthus, and Eggplant). Once fruits from the vegetables are harvested, drying, cleaning, and seed purity and germination testing followed before packing the seeds ready for distribution to local farmers. See below for details of the yield.

Table 13: Pollinated vegetable seeds production in Thadargyi village, Pindaya township

	Plot size (sq ft)	Spacing (ft)	Seed rate (kg/ac)	Seed yield (kg/plot)	Seed yield (kg/ac)
<b>Bush type bean</b>	2400 (80 x 30)	2 x 3	3-4 kg	<b>5.4 kg</b>	98 kg
<b>Yard long bean</b>	2100 (70 x 30)	2 x 3	5-6 kg	<b>1.5 kg</b>	31.11 kg
<b>Okra</b>	2100 (70 x 30)	3 x 3	3 kg	<b>5.7 kg</b>	118.2 kg
<b>Amaranthus</b>	1000 (50 x 20)	3 x 3	1 kg	<b>0.8 kg</b>	54.45 kg
<b>*Eggplant</b>	2520 (70 x 36)	3 x 3	0.15		

\* Currently, eggplant fruit is nearly at the ripening stage.

Table 14: Pollinated vegetable seeds production in Yebyonegyi village, Nyaung Shwe township

	Plot size (sq ft)	Spacing (ft)		Seed rate (kg/ac)	Seed yield (kg/plot)	Seed yield (kg/ac)
<b>Bush type bean</b>	2400 (60 x 40)	2 x 3		3-4 kg	<b>7.5 kg</b>	136.1 kg
<b>Yard long bean</b>	1620 (54 x 30)	2 x 3		5-6 kg	<b>1.7 kg</b>	45.7 kg
<b>Okra</b>	1760 (44 x 40)	3 x 3		3 kg	<b>8.6 kg</b>	212.8 kg
<b>Amaranthus</b>	1200 (60 x 20)	3 x 3		1 kg	<b>1.8 kg</b>	65.3 kg
<b>**Eggplant</b>	2520 (70 x 36)	3 x 3		0.15	-	-

\*\* Serious flood damaged all eggplants in Yebyonegyi plot, Nyaung Shwe township.

Open-pollinated seed production is the first intervention in the area assisting SSA farmers to improve their knowledge of producing local seed varieties. The approach helps farmers to have continued seed supply for the next crop production season. For the upcoming year, the approach will be replicated in the Magway region to support farmers in producing their seeds.

### 3.2.1.8: Home production of dried small fish powder in the pilot area

For this *Activity* period, F4L continues the work on producing dried small fish powder at the community level. A total of 26 participants (F=12; M=14) joined the training in Shwebo Township. Moreover, the team distributed 10 grinders in Nyaung Shwe to help in producing dried small fish powders that can be easily added to family meals and complementary foods for infants over 6 months of age. The powder is a good source of bioavailable protein and essential nutrients that are needed for child growth and development. Moreover, when there is a surplus of dried small fish powder, women can sell it to neighbors for an extra income.

Sub- Intermediate Result (IR) 3.3: Improved diet diversity and food safety for young children and women of reproductive age through SBCCs and nutrition education.

### ***Output 3.3.1: Improved knowledge and consumption behaviors on fish***

#### **Context**

F4L addresses one of the underlying causes of malnutrition; poor nutrition knowledge and inadequate child feeding practices by providing knowledge and basic nutrition information, especially on the importance of eating fish, and vegetables and having a diverse diet to achieve good nutrition among rural households. In addition, F4L through implementing partners conducts social behavior change communication activities (e.g., role plays, demonstrations, support groups, etc.) focusing on the barriers and the enablers of changing and adoption of good behaviors among priority groups.

#### **Tasks:**

*3.3.1.1: Conduct refresher training courses focusing on nutrition, especially on the consumption of fish and Small Indigenous fish and vegetables resulting in dietary diversity, and improved WASH practices to implementing partners.*

F4L conducted a two-day training of trainers (ToT) to a total of 44 (F=50%) participants from WorldFish, BRAC, PACT, MFF, KMSS, Healthy, and Happy Families, and Save the Children. The participants learned the current guidelines on healthy and balanced diets suitable for Burma children and pregnant and lactating women and were able to discuss how they can disseminate the information effectively to the communities in which they are working. The participants learned the importance of consuming diverse food in the right amount every day to become well-nourished and prevent lifestyle diseases.

After the ToT, the trainers conducted training sessions to disseminate the new learning in their respective areas in Magway, Kachin, Sagaing, Eastern Shan, and Southern Shan. In the training, the following key messages were highlighted:

- Consumption of cheap, local, and available foods that are in season are nutritious and more accessible to our farmers.
- Adoption of an integrated farming system (rice, fish, and vegetables/fruits) can increase dietary diversity and reduce the cost of purchasing foods.
- Demonstration of food groups that can be cooked as one dish, so women are not burdened with preparing multiple meals every day.

*3.3.1.2: Social Behavior Change communication activities on nutrition and improved WASH practices such as cooking demonstrations, formation of Mothers support group, nutrition month campaigns, etc. at a different venue (markets, health center, etc.) (Includes nutrition messages in SBCC strategy promoting consumption of nutrition fish)*

Every year, F4L celebrates Nutrition Month in August to reinforce the message of the importance of good nutrition for all. Implementing partners conducted activities; cooking demonstrations, quizzes, and competitions that highlighted the messages on multiple benefits of consuming small fish powder, applying effective WASH, and good fish handling practices.

A total of 553 participants (66% women) in Eastern Shan, Kachin, Magway, and Sagaing participated in the fun-filled activities. Posters were also exhibited in villages to raise awareness of nutrition and WASH knowledge and practices, and brochures with nutrition and WASH information were given to all participants.

F4L continues to ensure that information is being shared with diverse communities. Identifying the needs of participants eg. language, and literacy level, to communicate the message effectively supports increasing knowledge that can facilitate in creating a more resilient community.

## 8. Project management and cross-cutting

### 8.1. Activity Management

The strength of the implementation model of F4L lies in a network of diverse partner organizations that are implementing F4L in several townships in Burma. The diverse mix of partners (CGIAR, INGOs, NGOs, Fisheries Associations and Aquaculture Promoters) ensures that we implement F4L as per the approved work plans with a very close interaction at village and household levels<sup>9</sup>. WorldFish, being the leading entity to implement the *Activity*, oversees partners with a main office in Yangon and a satellite office in the Mandalay. WorldFish and F4L partners work together to ensure that F4L reaches small-scale aquaculture (SSA) farmers in the townships where F4L operates. Despite major challenges within the country, political instability, economic fragility, and climate change, to mention a few, F4L delivered on what was planned throughout the year with a 93% burn rate.

**Monthly Partners Coordination Meetings:** WorldFish convenes monthly F4L meetings with IPs. The meetings are virtual. All F4L partners present their monthly progress and outline next month's plan with F4L colleagues. It is an opportunity to interact, exchange information learn, and discuss how to overcome challenges being faced during F4L implementation. These meetings are held on the last Mondays of each month. The F4L DCoP takes the lead with the CoP in coordinating, arranging, and moderating monthly partners' meetings. Monthly partners' meetings help WorldFish and its partners to align their expectations with each other. WorldFish F4L team and component leads provide strategic and day-to-day direction to F4L partners. WorldFish in turn receives useful insights and information on implementation at the grassroots level. WorldFish Field Coordinators, based in each of the State/Regions, work closely with partners. The outcome of these meetings results in better and improved implementation, coordination, and communication between WorldFish and partners and amongst all F4L partners.

**F4L Annual Planning Meeting of WorldFish and Sub-partners for FY 2024 work plan:** An in-person 'F4L FY 2024 Planning Meeting' was convened in Yangon from August 17 to 18, 2023. A total of 53 participants (25 males, and 28 Females) attended the planning meeting. The meeting finalized the F4L activities and budget for FY 2024. The planning workshop benefited from the presence of all WorldFish and sub-grant holder staff. In addition, USAID was represented. The decisions made will ensure that the year five implementation year will be as successful as possible.

### 8.2. Grants and Finance

The new grant agreement (Cost-Type Agreements with Public International Organizations-PIOs), Agreement No. 72048221IO00001, F4L Activity (F4L) has been fully effective since 15th September 2021 and will last until 14th September 2027. The agreed amount is USD 17,000,000, of which the obligated amount is USD 3,000,000 in this reporting year.

For the period from 1 July to 30 September 2023, the estimated expenditure (planned expenditure) is USD 1,219,793, while the actual spent is USD 1,142,325 – the projected expenditure and invoiced amounts differed by 6% during the reporting period. This difference was mainly due to

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<sup>9</sup> This point is very important as WorldFish and IPs receive feedback from the farming communities; the farmers themselves (Aquaculture Promoters) who will know when it is safe or not to provide group training.

Contractual/Sub-Grants, particularly PACT, where the actual spending was lower than accrual. As of 30 September 2023, the total reimbursement of USD 2,230,864 has been received.

WorldFish finished developing the work plan and finalizing the budget for the next fiscal year (2023–2024) during the reporting period. In the case of the changeover PACT to AYO-SDA, the latter having successfully applied for a Unique Entity Identifier (UEI) with the help of the USAID team in Rangoon and passed by handing over all of PACT's qualified human resources to AYO-SDA. The continuation of PACT staff with AYO-SDA will ensure sustainability of effort in the work area.

The WorldFish finance team provides intensive financial guidance training to all IP and WorldFish operatives. In addition advice and feedback to the beneficiary farmers, fishers and market system operatives during multi-sectoral workshops. This also includes the financial management improvement of local entities including the Myanmar Fisheries Federation (MFF).

Note: Please kindly refer to Annex C: Progress Expenditures and Funds Status, for more details.

### Value for Money (VfM)

- The team continued to manage input costs ensuring VfM principles were considered as part of procurement, recruitment, and subcontracting.
- Synergy with other interventions will add VfM aspects in that experience from other WorldFish interventions regarding the circular economy, regenerative agriculture and nature-based solutions are being applied in the F4L implementation areas.
- WorldFish draws upon a wealth of experience globally and within Burma. As an entity within the One CGIAR we also gain from experience in Burma from IFPRI, IRRI and IWMI.
- WorldFish continues to focus on achieving efficiencies through programmatic linkages with the implementation partners and stakeholders' different intervention modes for the country under the double crisis. Virtual extension service delivery in isolated areas has shown to be effective. As a result, it is possible to reduce operational costs while scaling results to more target areas.

### 8.3. Monitoring Evaluation and Learning (MEL)

Monitoring Evaluation and Learning (MEL) is an integral part of F4L *Activity* implementation. MEL plays a critical role in ensuring that F4L adheres to a high standard of monitoring, evaluation, and learning and collects data of high quality. It further ensures that data is presented in a manner that provides management with insightful and robust evidence to make informed decisions. The key contributions MEL and Data team made to F4L are discussed in the subsequent paragraphs.

**Data Tools Package:** The WorldFish F4L MEL team supervises and manages the *Activity's* data system which contains a range of data collection templates and databases. All these templates and tools are part of a package known as the Data Tools Package (DTP). The MEL team incorporates feedback from field teams and F4L partners and learning from implementation to refine and update the DTP. This is an *Activity* that MEL performs on an annual basis. In the reporting quarter, the MEL undertook yet another assessment of DTP. This assessment resulted in the removal of the Monthly Progress Report (MPR) template, a report F4L partners submitted to WorldFish for cross-verification. This verification is no longer needed because now MEL and WorldFish program team members can perform field visits. In addition to this, Farmer record Books (FRB) are now reduced to half their size

and will capture the data needed to report on F4L indicators. F4L databases are now revised and updated based on the recommendation of the newly hired Data Management Specialist – a position created to ensure the reliability and consistency of the data.

**Restructuring of WorldFish F4L MEL and Data team:** In the reporting period, the F4L MEL team underwent a structural change whereby a new team member joined as a Data Management Specialist (DMS). The DMS not only strengthens F4L data management systems at WorldFish but also develops the capacity of F4L partners in data management. DMS is a senior position in the MEL team. The MEL F4L lead relocated to Worldfish Headquarters (HQ) in January 2023 and will dedicate 50% of his time to international MEL. This is to embed international perspective to F4L MEL and data management. MEL Specialist will continue to lead the F4L M&E and data team based in Burma with remote oversight on a 50%-time allocation basis. He will visit Burma country offices and field offices from time to time and will attend key F4L events. This relocation is to empower national staff to promote localization in implementation. In the future, MEL Specialists will have a global perspective while based at HQ that will assist the national team based in Burma. Nonetheless, the oversight will remain effective due to the remote arrangements being adopted after COVID-19 and ongoing political crises in the country. The national team based in Burma can carry out day-to-day activities and collaborate with F4L local partners.

**MEL team field visits to F4L intervention areas:** The MEL team undertook several field trips to F4L intervention areas in Southern and Eastern Shan State, and Magway. MEL head visited Southern Shan in December 2022 where fisherfolk and SSA farmers met him. He also visited the facility of the improved smoking kiln and the participants who have received portable fish dryers from F4L. M&E Coordinators not only visited the field for monitoring but also assisted F4L senior management in developing the capacity of field staff who regularly collect data from the field. These trips helped the MEL team to collect feedback from those who were on the ground. The MEL team also collected qualitative data that was related to context and the requirements of evolving context to be integrated in F4L MEL and data management systems.

**Refresher session for Data tool package:** On January 23-24, 2023, a total of 58 (Female=29, Male=29) participants, from F4L partners, attended a refresher session on the data tools package (DTP). The Data Management Specialist and the two M&E Coordinators made presentations on how to collect the record books and use the new database templates, including project participant database, reporting mechanism, nursery record, farmer record, feed maker record, distribution record, revolving fund record, and market actor record. Regarding the Information, Education, Communication, and Training (IECT) sessions, IECT Coordinator explained the collecting of different types of training data and keeping photos on Google Drive.

On day two of the data tool package session, the team continued the record book session for fish hatcheries, explaining how to collect data by using the Kobo Toolbox. The surveys included: 1) Better Management Practices – BMP survey for grow-out farmers, 2) Monthly market price survey, and 3) Natural and man-made disasters affecting fishponds. We provided clarity by summarizing the main session ideas answered a range of questions and agreed on action items and due dates for the reporting mechanism. All the field staff are now familiar with recordkeeping books and the use of new database templates. They will prepare and submit all the different types of datasets to the M&E team and IECT team for timely quarterly and annual reporting.

**Performance Assessment F4L for three years of implementation:** A comprehensive Performance Assessment (PA) study, planned to be conducted in FY 2023, was initiated in the second quarter of FY 2023. The PA assessed and measured the performance and progress of F4L-supported SSA farmers in terms of production, income, and nutrition among other parameters. WorldFish advertised for assessment companies and after detailed analysis, hired two consulting firms – an international and a local, to collect data from SSA farmers. The F4L M&E team communicated clear expectations roles and responsibilities to these firms. This collaboration will result in the collection of accurate and



verified in-person data with multiple checks imposed by both firms. The F4L *Activity* took technical assistance from the WorldFish global academic partner, Tokyo University. They came up with a scientific and robust design and methodology for the assessment of data collection. After the collection of data – a cumbersome exercise – Tokyo colleagues analyzed the data and produced a detailed report. The Performance Assessment Report is attached as an annex to this report. The main findings from the performance assessment were as follows:

1. 1,810 farmers interviewed (average survey time 68 minutes)
2. 95% of the sampled farmers have a single pond (average size 0.4acres)
3. 62% have crop sales as their main income (livestock 26%)
4. 90% operate as individuals – not in associations or collectives
5. 74% only feed rice-bran to their fish as they cannot afford pelleted feed
6. >50% are adopting BMPs
7. 64% are aware of the need to avoid farming in flood-prone areas
8. <50% are using pond embankments to grow vegetables<sup>10</sup>
9. ~50% maintain good records of fish sold, hence can calculate profitability
10. >50% have managed to step-up from subsistence to commercial farming
11. ~33% own nets to harvest fish
12. Highest fish production in Sagaing (lowest in Kachin and Magway)

**F4L Performance Assessment Workshop:** F4L M&E and the data team organized a full-day in-person workshop for the “Performance Assessment” survey in Yangon, Burma. Delegates from USAID Burma, F4L staff, partners, and hired consultant teams attended the workshop. In aggregate, 42 (Male=23 and Female=19) participants attended the event. The objective was to mutually discuss how to ensure accurate, reliable, and robust data collection from survey townships (intervention and control); to deliberate and clarify roles and responsibilities amongst those who are involved; and to agree on a functional coordination and collaboration mechanism between hired consultants and F4L team. The field team and partners understand the process of survey methodology and will have clear communication with the hired consultants. “Performance Assessment” survey intends to generate insights and evidence on the first three years of F4L *Activity* implementation on fish production, farmers’ income, and human nutrition, a comparison among different groups of farmers who received assistance from the F4L *Activity* – cluster approach, to learn and adapt for better implementation in upcoming years of F4L. The final report will be useful for USAID, WorldFish, and F4L partners internally and will disseminate research science and academic papers for external stakeholders. Key elements will also be shared with beneficiary farmers.

**Refresher Training for Data Tool Package:** F4L M&E and the data team conducted a half-day “Refresher Training for Data Tool Package” to F4L field staff and partners at the same venue with 36 (male, and female) participants. The database is designed to reduce the workload of data entry in every dataset (project participant, hatchery, nursery, feed maker, production, and micro-credit fund), and to analyze quickly for the information that F4L needs for achieved numbers in reporting. The database templates have been adopted since the second quarter of FY 2023. Some of the partner organizations do not have M&E focal points – they need more technical support from WorldFish. M&E and the data team are continuously supporting F4L field staff and partners to provide high-quality data as per the reporting schedule. They will be familiar with using new database templates and can provide accurate and consistent data to be reported to USAID through quarterly and annual reporting.

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<sup>10</sup> The question “Do you grow vegetables on your pond embankment?”, needs to be rephrased to ask “Are you following the recommendation to grow vegetables near your fishpond near your homestead?” In some cases farmers may be adopting the vegetable production suggestion but not on the pond embankment.



**Lessons Learned Workshop in Yangon:** F4L M&E and data team successfully conducted the Lessons Learned Workshop, for FY 2023, with the WorldFish colleagues and respected F4L partners for two days (28-29 Oct 2023) in Yangon. A total of 39 participants (male, and Female=19) joined the workshop. The new F4L sub-guarantees, who will implement F4L in FY 2024, staff members from ArYone Oo and MFF Sagaing also participated. The main objective is to identify a better understanding of what worked well, what didn't work, and what can be done differently in the future for *Activity* implementation. By sharing the experience of each sub-guarantee with the others during the workshop, they understood what kind of areas still need to improve and support SSA farmers. As a result of feedback from the workshop, F4L will ensure how to facilitate and improve change behavior practices in food safety and BMP in production, approaches in improving nutrition and income for SSA farmers, technical support in gender sessions, upgrading of training extension materials and possible interventions with new market players.





#### 8.4. Gender and Youth

Since F4L is an *Activity* with a strong gender focus, gender equality and inclusion, particularly women and youth empowerment approaches, has been at the center of the all-project cycles from the beginning to the year's end.

Despite many challenges, WorldFish Burma was able to complete all direct gender-integrated activities on the ground, support the implementing partners technically to the best of their ability, and build their capacity on Gender Equality and inclusion to help them understand how Gender Equality and inclusion are essential for achieving greater and more sustainable development outcomes.

To fulfill the targeted objectives and gender transformative outcomes, WorldFish Burma strongly emphasized gender lens and perception at all the appropriate initiatives and accommodated the gender integration activities following the USAID's Gender Equality and Women Empowerment 2020 Policy, GNDR 2 indicator, and WorldFish's Gender Typology: **Reached, Accessed Resources and Benefits, Empowerment and Transformation.**

Pilot Community Awareness on Gender Equality and inclusion, Gender Violence (GBV) was initiated and accomplished in all six States/Regions - Magway, Kachin, Mandalay, Southern Shan, Eastern Shan, and Sagaing - as a specific direct integration to enhance the strategic needs while attempting the Gender Transformative Outcomes.

The pilot community awareness-raising session was aimed at promoting the beneficiaries' knowledge of gender equality and inclusion by improving their confidence and self-esteem level and recognizing how women have equal power and access to control over resources, decision-making, and participation as men.

The following significant results were attained at the pilot community awareness sessions.

- The negative Social/ Gender Norms were identified based on their context by the beneficiaries

- The consequences of Gender Inequalities were recognized by the beneficiaries and discussed how they can try to address those inequalities issues.
- The roles and responsibilities between men and women were identified and their thoughts on how can they make those balanced can be shared at the household level.
- The beneficiaries will realize that there is a power dynamic between men and women and other intersectionality.
- The power walk exercise could help the participants to get clear and realize how vulnerable people can be power abused and all humans should live together full of their rights, and equal access to resources and opportunities regardless of their intersectionality issues.
- Realization of Gender Based Violence (GBV) issues and its negative consequences



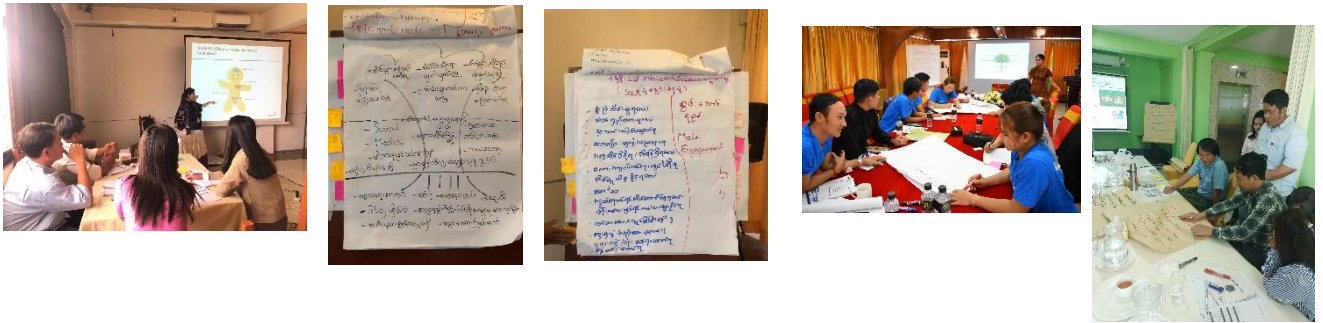
Additionally, all F4L partners acquired Training of Trainers (TOT) to improve their knowledge of gender equality, all forms of social inclusion, male engagement approaches, women's empowerment, leadership roles, etc.

The TOT Training was not only for the capacity development of IPs on Gender Equality and inclusion and Women Empowerment, but also for identifying together the root causes of gender inequalities, barriers to women's agency development and equal participation, types of harmful gender norms, gender stereotypes, and power dynamics, etc and the final session of the TOT aspired to come out the gender mainstreaming strategy of their own to address the issues towards positive gender transformative goal.

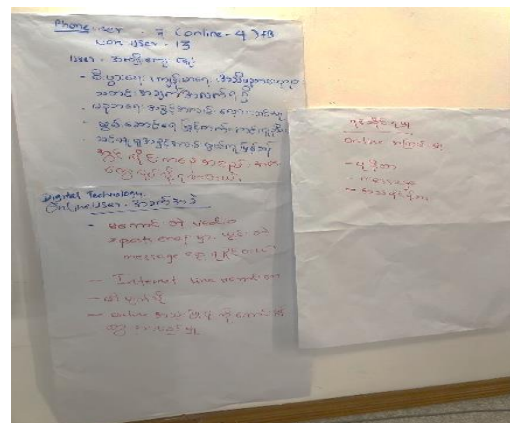
The TOT Training guided to acquire conceptual and practical understanding on:

- Patriarchy, Feminism, Brief of CEDAW and NSPAW, SDG Gender Equality Goal No. 5
- Concepts of Gender (Gender Socialization, Internalization, Norms and Stereotypes, Sogies, Intersectionality
- Gender Equality and Equity, Division of Labours, Power Dynamic,
- Importance of Male Engagement
- Concept of GBV,
- Introduction to USAID Gender Equality and Women Empowerment 2020 Policy and Key Gender Domains
- WorldFish Gender Typology and Its Impact,
- What is the Gender Transformative Approach and why it is important?
- Discussion on F4L Gender Indicator- GDNR 2
- Plans on how to move forward collectively with necessary technical support





Moreover, International Women's Day (IWD) and International Youth Day (IYD) were also commemorated in cooperation with the relevant Implementing Partners (IPs). On March 8th, 2023 at Htin Htin Thar Hotel, in Magway, International Women's Day was also celebrated as a half-day event in line with the global theme **“Digit All: Innovation and Technology for Gender Equality”** and 20 women from Ngwe Taung Village, Salin Township, Magway Region participated in it. The event was the first time celebration in Magway by F4L and the women got the opportunity to gain knowledge about the 12 key messages of the 2023 International Women's Day theme they claimed that taking part in the celebration event made them feel quite proud. The women had the chance to discuss their opinions and personal experiences while using the digital platform. The women also identified and recognized the benefits, disadvantages, and limitations of adopting digital technology.



In accordance with the **2023 International Youth Day's theme of "Green Skills for Youth: Towards a Sustainable World,"** the "International Youth Day (IYD) Celebration event" was commemorated as a half-day event on August 12, 2023, with 20 young people aged between 15 and 24 in Young Moon Village, Mongywang Township.

Half-day celebration sessions covered “Brief Introduction of SDG Goals, Leadership, Gender Equality & Inclusion” and “Collecting Quotes of their Future Dreams on how they Want to Implement

their Future in Green Transaction." The IYD celebration aims to enhance youth knowledge and abilities, so they can adapt their lives to green transactions.

That was the first time International Youth Day celebration event in Eastern Shan by F4L and the youth had the chance to learn about the Sustainable Development Goals (SDGs), various leadership theories, different leadership skills and styles, the importance of leadership, gender equality, and all other forms of social inclusion.



### 8.5. Environment/climate change

All training aspects of SSA development contain information on the avoidance of climate change induced environmental conditions. These include:

1. High water temperatures (34C) in April, May and June before the onset of the monsoon with concomitant low dissolved oxygen (DO) levels in fish ponds. The mitigation strategy would be to harvest before the onset of these conditions or if possible top-up the pond with ground water to maintain the water level. At the same time areate the pond using a venturi aeration system.
  - a. Low DO levels stress fish making them susceptible to disease outbreaks
  - b. Stressed fish do not eat and therefore stop growing
2. The risk of flash floods – best avoided by ensuring that the fish pond is not situated in a river floodplain or close to a deforested area where rainfall runoff can build-up rapidly.
3. The adoption of ‘climate-smart’ aquaculture by:
  - a. Selecting fast growing fish species like the Genetically Improved Farmed Tilapia (GIFT)
  - b. Produce a fish of a small size (due to the short production period and short period of water availability) and add value e.g. smoked 200g rohu carp marketed in Chin State or Nagaland India from Magway and Sagaing
  - c. Using WISH ponds (Water and Fish), plastic lined small (~50M<sup>2</sup>) ponds big enough to produce some high value fish (SIS) and provide water for vegetable irrigation. These ponds require access to tubewell water – hence aeration needed.

### 8.6. Communications

The WorldFish Headquarters (HQ) communication department and IECT coordinator helped the program team to brand all information, education, communication, and training materials to comply with the branding and marking guidelines of F4L, which has been approved by the USAID in the year

3. In the 2nd quarter of year 3, USAID approved the following list of extension and training materials, awareness-raising materials, and incorporating informative messages on COVID-19 and its precautions in all products. The printing and distribution process of these extension and training materials for all key F4L participants in year 4 (FY 2023) is continually produced. The distribution list of IECT materials can be accessed in the Annex “Fish for Livelihoods IEC materials distribution list”. The rest of the major communication products developed are accessible in the Annex "Fish for Livelihoods IEC documentation list".

- Fish for Livelihoods factsheet
- Nutrition and COVID-19 pamphlet
- Small-Scale Aquaculture (SSA) and COVID-19 pamphlet
- Why fish pamphlet
- BMP for vegetable production systems
- Traditional Fish processing recipe
- Guide on dried fish processing
- Recipe card fish pumpkin ball
- Small Indigenous Species (SIS) partial harvest guide
- Small Indigenous Species (SIS) question and answer sheet
- Poster\_Important factors for a healthy and happy family
- Poster\_Toilet and sanitation
- Poster\_1000 days
- Poster\_Burma Mola comic story
- Poster\_Ceramic water filter
- Poster\_Good post-harvest fresh fish trading
- Small-Scale Aquaculture (SSA) farmer guidebook
- Good post-harvest practices for a fresh fish trading guidebook
- Good Fish Processing Practices Guidebook
- Production of dried small fish powder in the communities

Moreover, F4L developed a wall calendar 2023 layout with Social Behavior Change Communication (SBCC) key messages on SSA, Nutrition, and WASH. The key messages are to promote the SBCC strategy to increase the adoption and maintenance of positive behavioral change among mothers of young children and small-scale fish farmers. The calendar’s design and layout has been approved by USAID Burma in December 2022. It was printed and distributed among the F4L participants in January 2023.

With the input of the Human Nutrition Specialist and Gender Specialist, some promotional materials such as an apron with key messages on good post-harvest practices and a T-shirt with key messages on women's empowerment and gender equality was produced and distributed in training and events to promote among the fish vendors, processors, and F4L participants in this second quarter.

In addition, the International Women’s Day 2023, in line with the global theme “DigitAll: Innovation and Technology for Gender Equality” video clip was recorded via Microsoft Team with WorldFish Burma colleagues and a smoked fish processor woman from Inle Lake. The video clip was created in Burmese version with English subtitles and approved by USAID to celebrate only among the F4L participants internally. The discussion in the video clip identified the benefits, challenges, and harmful effects of using digital platforms nowadays.

An inspiring story that highlights Burmese aquatic foods processor Win Chewa Htun (not her actual name) and discusses her experiences as a woman fish worker, was shared on the WorldFish blog in March 2023. <https://worldfishcenter.org/blog/inspiring-stories-win-chewa-htun> She shares how embracing digitalization and utilizing kilns with newer technology has helped her overcome the challenges she faced as a woman in the aquatic foods sector.

A success story that highlights a “new nursery farm with one year experience at Waingmaw township” was distributed in the F4L Lessons Learned workshop. The participants as well as F4L farmers from Magway and Taunggyi townships received 70 copies of the success story in the Burmese version.

### **Mobile phone application – Shwe Ngar (Golden Fish)**

F4L through its IPs MFF, BRAC, KMSS, and PACT engaged *Activity* participants to register and to use the Shwe Ngar mobile application (App) to access information on SSA and improved human nutrition. Moreover, the App helps SSA farmers to make record-keeping on feeding and calculate the rate of feeding and recipes with local affordable raw materials for their ponds.

The F4L team and IECT Coordinator, provided six Shwe Ngar App video clips introducing how to download, register, and use the App effectively. USAID has approved the use of these video clips to promote the App use, and wisely distribute through its IPs among the fields where the *Activity* is being implemented.

On Sep 30, 2023, there were a total of 1,772 members registered as users of the Shwe Ngar mobile phone App which includes 1,000 farmers in total. Moreover, the F4L FCs and IPs staff conducted monitoring visits on the Shwe Ngar App registration and use of the App by the trained participants.

### **Mobile phone application – Htwet Toe**

F4L participants were encouraged to register and to use the Htwet Toe mobile application (App) to access information on SSA and improved human nutrition.

On September 30, 2023, Village Link had 5,013 farmers registered as Htwet Toe mobile App users. 3,173,725 people visited the 44 fish-related news, nutrition, and articles uploaded to the aquaculture page. There have been 1,035,089 visitors to the 20 Fish technical guidelines. The Htwet Toe App report can be accessed in the Annex “Village Link (Htwet Toe App) Report”.

Htwet Toe App link: <https://legacy.htwettoe.com/article-details/news/22650025>

In addition, with the help of the F4L field team, in September 2023, Village Link completed its second deliverable on developing Fish feed calculation which is embedded in the Htwet Toe App. The pilot fish feed calculation use training for staff and farmers in five states and regions will be carried out by the end of November 2023.

### **Mobile phone application – Green Way**

The Green Way mobile application is also being promoted to access information on SSA and improved human nutrition in fiscal year 4 (2022-23). This App has a new cost-benefit calculator added under the LIFT-funded MYMarket project. Initial feedback from the 200 farmers using the App under a pilot *Activity* has recommended a simplification of the cost-benefit calculator as it requires too much data entry.

On September 30, 2023, Greenovator had 116,054 users registered in five States and Regions of the F4L area. Among them 4,527 users were farmers. 5,723 people visited the 11 fish-related news, nutrition, and articles uploaded to the aquaculture page. Moreover, Happy Fish, a small fish powder product related to a new recipe was uploaded to 15 posts in total, and 4,788 people reached. The Green Way App report can be accessed in the Annex “Greenovator (Green Way App) Report”.

Green Way App link: [https://greenwaymyanmar.com/posts/world\\_fish\\_update\\_news\\_first\\_mile\\_stone](https://greenwaymyanmar.com/posts/world_fish_update_news_first_mile_stone)

### **GPS locations of F4L SSA farmers**



With the F4L support the WorldFish field team and IPs MFF, BRAC Myanmar, KMSS, and PACT Myanmar, the collection of GPS location data for all active grow-out farmers and community ponds year 1 (2019-20) 1,001 ponds, year 2 (2020-21) 1,427 ponds and year 3 (2021-22) 1,014 ponds were completed in June 2023. The collecting of GPS pond location data for year 4 (2022-23) 1,011 ponds was done in September 2023. Data verification is still under process. Feedback on data gaps has been given to the field staff.

### 8.7. Capacity development

In November 2022, Mr. Aung Myint Myat from Greenovator, Green Way mobile application delivered virtual training on Green Way mobile application use via Zoom to staff from WorldFish Burma and Implementation Partners MFF, BRAC Myanmar, KMSS and PACT Myanmar on how to install, register and use of the application, and a total of 55 (25 women) people attended. After receiving the training, the F4L field staff will replicate to aquaculture promoters, demonstration farmers, and grow-out farmers in five states and regions of the *Activity* implementation areas. Figure 5 shows delivering virtual training via Zoom.

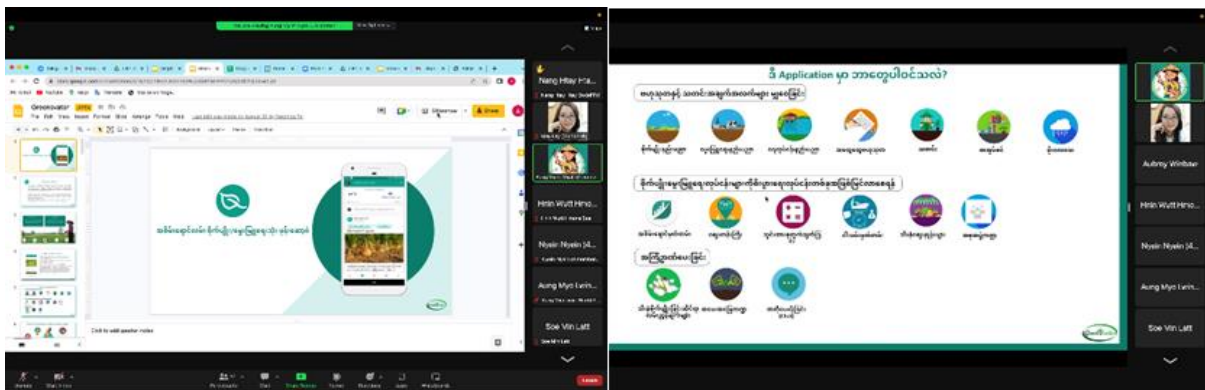


Figure 5: Participating attending a virtual session on a virtual platform

In December 2022, a total of 6 (2 women) staff from WorldFish Burma, MFF, BRAC Myanmar and KMSS attended dried small fish powder products training in Kengtung and Taunggyi. The training was organized by the WorldFish MyMarket project and delivered by Ms. Heather Morris, Project Manager, from FedWell Foods. The field staff learned about the drying and grinding techniques of fish powder and the production of Happy Fish products. Moreover, cooking demonstrations with the products and fish powder were done during the training. The participants provided feedback on the tasting and cooking recipes.

In January 2023, the F4L Monitoring and Evaluation M&E team and IECT Coordinator conducted a two-day virtual training session on refresh session for F4L data tools package to IPs MFF, BRAC, KMSS, and PACT staff via Microsoft Teams. Fifty-two (25 women) staff attended. The Data Management Specialist and the two M&E Coordinators made presentations on how to collect the record books and use the new database templates, including project participant database, reporting mechanism, nursery record, farmer record, feed maker record, distribution record, revolving fund record, and market actor record. Regarding the Information, Education, Communication, and Training (IECT) sessions, the IECT Coordinator explained the collecting of different types of training data and keeping photos on Google Drive.

In February 2023, the Field Coordinator from Sagaing and Mandalay regions conducted two days of in-person training on training of trainer (ToT) on SSA technology, nutrition, and WASH good practices to BRAC staff from Shwebo and Sintgaing Townships at WorldFish Burma Mandalay office. Fifteen (8 women) staff attended. Again, the IP staff will in turn train Aquaculture Promoters, demonstration farmers, and SSA farmers on the importance of fish culture in a household pond, vegetable culture on a fishpond embankment or backyard, and enhance knowledge on good WASH practices.

From February to April 2023, the *Activity* conducted training on recommended diet and healthy behavior for Pregnant and Lactating Women and Children aged 2-5 years in several batches in Yangon, Magway, Mandalay, Nyaungshwe, Kengtung and Myitkyina. A total of 93 (45 women) participants from WorldFish, MFF, BRAC, KMSS, PACT, Healthy and Happy Families, and Save the Children actively joined the training. The participants learned the current guidelines on healthy and balanced diets suitable for Burma children and pregnant and lactating women and were able to discuss how they can disseminate the information effectively to the communities in which they are working. The training sessions were aided by visual aids, manuals, and posters, in both theoretical and group discussion sessions. Figure 6 group photograph ‘lessons learnt’ workshop in Yangon.



Figure 6: Participants at Lessons Learned Workshop in Yangon

From February 20 to 24, 2023, the farmer-to-farmer (F2F) collaborative *Activity* with F4L assigned Mr. Hugh Thomforde, a US Volunteer to deliver five days of virtual training on Pond Water Quality Management for Aquaculture to Field Coordinators and IPs MFF, BRAC, KMSS and PACT staff via Zoom. Fifty-six (24 women) people attended. From the training, all participants learned and enhanced their knowledge of the management and development of aquaculture pond soil, organic matter in the soil, nutrient exchange between soil and water, soil pH, soil texture, and more. Besides, at the beginning of training on day 1, the Algal Bioassay Fertilization Strategy (ABFS) was delivered by Mr. Christopher F. Knud-Hansen, Ph.D. Figure 7 shows delivering virtual training via Zoom.

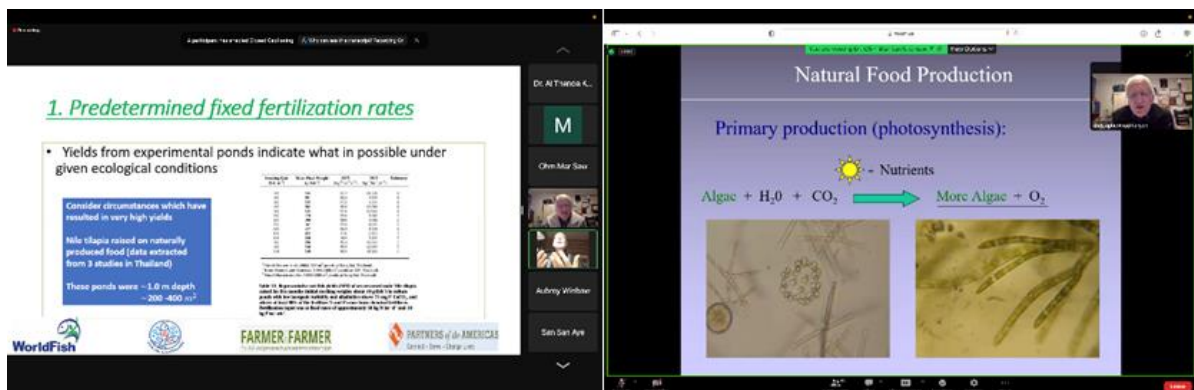


Figure 7: F2F Volunteer delivering a session to farmers

From March to April 2023, with the lead of WorldFish Gender Specialist, the field team conducted Gender Equality and Social Inclusion (GESI) training of trainers (ToT). A total of 66 (29 women) staff from MFF, BRAC, KMSS, and PACT attended. The training of trainers (ToT) event lasted two days. The ToT enhanced the capacity and understanding of sub-partners on GEI and demonstrated how important it is that gender is integrated into the *Activity*'s relevant components for achieving gender transformative outcomes.

Table 15: Number of WorldFish and F4L Partners staff received training.

Training topic	From	To	# of men trained	# of women trained	Total # Trained
Green Way mobile application use	Nov 2022		30	25	55
Dried small fish powder products	Dec 2022		4	2	6
Refresher session for data tools package	Jan 2023		27	25	52
SSA training of trainer (ToT)	Feb 2023		7	8	15
Recommend diet and healthy behavior for PLW and children between 2-5 years	Feb 2023	Apr 2023	48	45	93
Pond water quality management	Feb 2023		32	24	56
Gender training of trainer (ToT)	Feb 2023	Apr 2023	37	29	66
<b>Total</b>			<b>185</b>	<b>158</b>	<b>343</b>

### Participatory Community Appraisal (PCA) workshop

From October 2022 to August 2023, Implementing Partners MFF, BRAC, KMSS, and PACT staff conducted one day of face-to-face and virtual meetings via conference call on Participatory Community Appraisal (PCA) workshop to the selected new villages in several batches. A total of 706 (259 women) people from five Stages and Regions participated actively to explore key findings on PCA tools.

From December 2022 to May 2023, with the support of Field Coordinators from the Magway region and Eastern Shan state, PACT and KMSS Kengtung conducted one day of face-to-face project orientation on the F4L *Activity* session for new farmers in several batches. A total of 654 (298 women) people from Kengtung, Mongyawng, Monghpyak, Myothit, Pwintbyu, Seikphyu, Sinbaungwe, and Taungdwingyi townships attended. Figure 8 shows giving orientation in Pwintbyu.



*Figure 8: A glimpse from a PCA session in the field*

### **Training on Small-Scale Aquaculture (SSA) modules 1, 2 and 3**

From November 2022 to August 2023, with the support of Field Coordinators, Implementing Partners BRAC, KMSS, MFF, and PACT staff delivered training on SSA and improved human nutrition for three days. The training was conducted to project participants in several batches and the course is separated into three modules.

A total of 920 (324 women) people attended module 1 on pre-stocking management pond preparation and stocking management, 790 (317 women) people attended module 2 on post-stocking management and human nutrition part 1, and 857 (345 women) people attended module 3 on post-stocking management and human nutrition part-2. Figure 9 shows the delivery of SSA modules training in Pekon.



*Figure 9: Participants at SSA session of Module 1 and 2*

In addition, IPs BRAC, KMSS, MFF, and PACT staff delivered one day of SSA modules refresher training to the year-3 F4L participant. A total of 593 (224 women) people from Shan and Kachin states, Magway, and Sagaing regions attended in several batches.

### **Farmer Record keeping Management training**

From January to August 2023, IPs BRAC, MFF Shan, and PACT staff conducted training on farmer record keeping training for year-3 and year-4 farmers in Southern Shan state and Magway region. A total of 661 (253 women) participants attended. The SSA farmers learned how to make proper record keeping for their fishpond expenses from pond preparation to harvesting for each cycle of fish stocking.

From December 2022 to August 2023, KMSS and PACT staff conducted in-person training on pond monitoring and reporting to Aquaculture Promoters (APs). A total of 40 (5 women) APs from Kengtung, Myothit, Salin, and Sinbaungwe townships attended the training. In addition, BRAC staff trained SSA ToT to its APs from Sintgaing township, and a total of 10 (2 women) APs attended the course.

### **Mobile applications use training**

From December 2022 to March 2023, Implementing Partners BRAC and MFF staff delivered one day of face-to-face training on Shwe Ngar (Golden Fish) and Htwet Toe mobile applications (Apps) to the F4L participants on how to download, install, register and use of the mobile App. A total of 92 (34 women) people from Southern Shan and Kachin States attended.

In addition, the IPs staff delivered one day of in-person training on the Green Way mobile application (App), and a total of 167 (51 women) participants from Bhamo, Mansi, Mogaung, Myitkyina, Waingmaw, Nansang, Nyaungshwe, and Hsihseng townships attended. From the mobile App, SSA farmers can benefit from the aid of aquaculture-related knowledge, news, articles, and fish market prices, and the farmer can also get the assistance from help desk and fish farming questions and answers.

### **Trainings on Good Post-Harvest Practices, and Good Fish Processing Practices**

From December 2022 to September 2023, with the support of Field Coordinators, Implementing Partners BRAC, KMSS, MFF Shan, and PACT staff conducted personal training on “good post-harvest practices for fresh fish trading” to fresh fish vendors and “good fish processing practices” to fish processors in four states and regions: Magway, Mandalay, Sagaing, and Shan.

The participants enhanced their knowledge of improving the quality of fish to help them improve their income from sales and enhance their ability to provide safe and fresh fish to consumers. A total of 144 (385 women) participants attended the good post-harvest practices for fresh fish trading training and a total of 127 (64 women) participants attended the good fish processing practices training. Figure 10 shows the training of fish processing in Southern Shan state.



*Figure 10: women participants at good post-harvest and good fish processing practices session*

From December 2022 to June 2023, the *Activity* conducted an Improved Nutrition (cooking demonstration) and improved WASH Practices event in Salin, Pwintbyu, and Myothit Townships in

the Magway Region. A total of 218 (192 women) participants attended the event. Aside from Improved Nutrition (cooking demonstration) and WASH Practices activities, the field staff explained and demonstrated to the communities about nutrition and WASH principles.

From February to August 2023, with the lead of WorldFish Burma Gender Specialist, the F4L *Activity* conducted in-person training on ‘gender awareness’ in four regions and states. A total of 216 (132 women) participants from Shwebo, Sintgaing, Waingmaw, and Kengtung townships attended. The objective of these sessions is to improve the knowledge about gender, sensitivity around this topic, and how women in communities are playing many roles, often not recognized, which are essential for the well-being of community life.

From March to September 2023, with the lead of the Field Coordinators, the *Activity* conducted one day of in-person training on Common Carp induced breeding to the nursery, demonstration farmer, aquaculture promoter, and SSA farmers at U Tu Myat Hatchery from Kachin state. Thirteen (1-woman) participants attended the training. Moreover, twenty-five (2 women) nursery farmers from Magway and Mandalay regions and Shan states received one day of ‘Carp nursery pond management training course on how to prepare nursery ponds for stocking, promoting both nursing in nursery ponds and nursing fish in a cloth net hapas before releasing them into grow-out ponds. Figure 11 shows delivering Carp-induced breeding training in Myitkyina.



Figure 11: Participants at Carp Induced Breeding training session

In April 2023, with the lead of the Field Coordinator from Southern Shan state, the *Activity* conducted a one-day training on “Operation and Management of the FAO – FTT-Thiaroye Processing Techniques”. A total of 13 (4 women) participants attended. The figure shows delivering in-person training in Inle.

From April to August 2023, KMSS Pekon staff conducted in-person training on “Nutrition Awareness and Gender” in Southern Shan states. A total of 72 (67 women) participants from Pekon and Pinlaung townships attended. The objective of these sessions is to improve the knowledge about gender, sensitivity around this topic, and how women in communities are playing many roles, often not recognized, which are essential for the well-being of community life.

In May 2023, with the lead of a Field Coordinator from Southern Shan state, the F4L *Activity* hired a local expert agronomist to deliver training on “Open Pollinated Vegetable Seed Production”. In addition, F4L is piloting the production and use of local vegetable seeds which are better suited to local climatic conditions and farming practices. A total of 15 (5 women) farmers from Pindaya and Nyaungshwe Townships attended. Figure 12 shows the in-person training in Pindaya.



Figure 12: Participants at Open-Pollinated Seed Production session

### Feed Miller management training

From May and September 2023, the Field Coordinators conducted in-person training on Feed Miller Management. A total of 29 (4 women) feed millers from Kacin and Shan states and Sagaing region attended. The participants learned how to select good quality feed, which is available locally, different feeding methods, and how to operate a feed miller. The *Activity* supported the feed miller and produced the supplementary feeding of good quality pellet feed.

In May 2023, the F4L *Activity* conducted “Lessons Learned” workshops in Magway and Taunggyi townships. A total of 35 (6 women) SSA grow-out farmers, demonstration farmers, nursery farmers, aquaculture promoters, and feed millers from Magway and Southern Shan states participated in the discussion. The session was aimed to document key lessons learned during *Activity* implementation. Discussions and deliberations were held on what went well, what didn’t work, and what needs to be improved regarding *Activity* support. The key messages included Pond siting and preparation, Fish species, fish seed purchase, fish stocking, Water quality, pond management and fish feeding, Vegetables and fruit production on pond dikes and home gardens and Nutrition, WASH and IEC materials, in-kind supported by the F4L *Activity*.

In September 2023, the MFF Shan conducted the same *Activity* on Lessons Learned workshop in their area with different participants from Hsihseng township, and a total of 27 (3 women) farmers attended.

From May and September 2023, one day of in-person training on “Business Planning” was held in Magway, Taunggyi, Nansang, Shwebo, and Myitkyina townships. A total of 169 (72 women) SSA farmers or entrepreneurs attended. The F4L team members delivered content on business planning for the entrepreneurs, when and how to draft a business plan, and sharing the application of simple business plan templates. From this session, participants learned the components of a business plan in detail through the lectures and their group work on writing their business plan. Figure 13 shows in-person training at a workshop in Kengtung and Myitkyina townships.



Figure 13: F4L DCoP at a Business Planning session

In August 2023, the *Activity* celebrated the Nutrition Promotion Month event in five regions and states. The F4L nutrition awareness raising campaign helped in increasing the knowledge on the multiple benefits of consuming small fish powder, applying effective WASH, and good fish handling practices that will result in improved health and nutrition among community members. A total of 553 (364 women) people participated.

In August 2023, the IP MFF Shan conducted one day of face-to-face training on risk management of integrated aquaculture to F4L farmers from HsiHseng townships. A total of 46 (14 women) people attended. From the training, all participants learned and enhanced their knowledge of the risks of aquaculture in earthen ponds, which involved live animals living underwater, unpredictable sunlight and warm climate, and financial risk.

### **Strengthening capacities of CSOs and IPs in Kachin and Shan**

The F4L *Activity* contracted with the consortium, three partners collaborate (Fresh Studio Myanmar, MDF Asia Myanmar, and Sympathy Hands), in year 4 to strengthen capacities of Kachin and Shan-based CSOs (Shan Women Development Network, Dai Fai Social Service, Yawng Sin, Shwe Inn Thu, PHECAD and Mawk Kon) and Implementing Partners MFF and KMSS in the two F4L *Activity* areas. From June to September 2023, the following training courses, depending on the prioritized needs, were provided to the participants. For more details reporting, kindly refer to the Annex consortium capacities building report.

Three Kachin-based CSOs and three Shan-based CSOs received:

- Monitoring and evaluation (M&E) focus on reporting
- Proposal writing
- Leadership and governance
- Organization Development (OD) related coaching
- Operation management training
- Financial management training
- Aquaculture training

IPs MFF and KMSS from Kachin and Shan received:

- Monitoring and evaluation (MEAL) focus on reporting
- Leadership and governance
- Project Cycle Management
- OD-related coaching
- Report writing
- Fundraising & resource mobilization
- Coaching HR policy
- Coaching financial policy

*Table 16: Number of men and women participants who received training/event/workshop.*

<b>Training topic</b>	<b>From</b>	<b>To</b>	<b># of men trained</b>	<b># of women trained</b>	<b>Total # Trained</b>
<b>Participatory Community Appraisal (PCA)</b>	Oct 2022	Aug 2023	447	259	<b>706</b>
<b>SSA modules refresh training</b>	Oct 2022	Sep 2023	369	224	<b>593</b>
<b>SSA module-1 training</b>	Nov 2022	Jun 2023	596	324	<b>920</b>



<b>Training topic</b>	<b>From</b>	<b>To</b>	<b># of men trained</b>	<b># of women trained</b>	<b>Total # Trained</b>
<b>SSA module-2 training</b>	Mar 2023	Jul 2023	473	317	<b>790</b>
<b>SSA module-3 training</b>	Mar 2023	Aug 2023	512	345	<b>857</b>
<b>Exposure/Exchange visit Demo farm</b>	Nov 2022	May 2023	100	42	<b>142</b>
<b>Project/Community Orientation on the F4L Activity</b>	Dec 2022	May 2023	356	298	<b>654</b>
<b>Good fish processing practices training</b>	Dec 2022	Sep 2023	63	64	<b>127</b>
<b>Good post-harvest practices training</b>	Dec 2022	Sep 2023	241	144	<b>385</b>
<b>Cooking demonstration workshop</b>	Dec 2022	Jun 2023	26	192	<b>218</b>
<b>Green Way App uses training</b>	Dec 2022	Mar 2023	116	51	<b>167</b>
<b>Shwe Ngar App use training</b>	Jun 2023	Aug 2023	58	34	<b>92</b>
<b>Htwet Toe App use training</b>	Jun 2023	Aug 2023	58	34	<b>92</b>
<b>Record-keeping management training</b>	Jan 2023	Aug 2023	408	253	<b>661</b>
<b>Gender equality awareness raising training</b>	Feb 2023	Aug 2023	84	132	<b>216</b>
<b>Nursery pond management training</b>	Mar 2023	Sep 2023	23	2	<b>25</b>
<b>Carp-induced breeding training</b>	Mar 2023		12	1	<b>13</b>
<b>Operation and Management of the FAO Thiaroge Processing Technique</b>	Apr 2023		9	4	<b>13</b>
<b>Nutrition and Gender training</b>	Apr 2023	Sep 2023	5	67	<b>72</b>
<b>Microfinance training</b>	Apr 2023	Sep 2023	5	67	<b>72</b>
<b>Fish feed production training</b>	May 2023	Sep 2023	25	4	<b>29</b>
<b>Pollinated Seed Production training</b>	May 2023		10	5	<b>15</b>
<b>Business Planning Training</b>	May 2023	Sep 2023	97	72	<b>169</b>
<b>SSA TOT to Aquaculture Promoters</b>	Mar 2023		8	2	<b>10</b>
<b>Pond Monitoring and Reporting Training for APs</b>	Aug 2023		35	5	<b>40</b>
<b>Fund Management Training</b>	Aug 2023		55	14	<b>69</b>

<b>Training topic</b>	<b>From</b>	<b>To</b>	<b># of men trained</b>	<b># of women trained</b>	<b>Total # Trained</b>
<b>Nutrition Month Event</b>	Aug 2023		189	364	<b>553</b>
<b>Risk Management Training</b>	Aug 2023		32	14	<b>46</b>
<b>Total</b>			<b>4465</b>	<b>3343</b>	<b>7808</b>

## Activity Expenditure vs Budget: Year 4, FY 2023 (all figures in USD)

Table 17: Expenditure versus Budget Year 4 FY 2023 (all figures in USD)..

No.	Budget Line Items	Approved Budget	Prior Period Cumulative Expenditure	Current Period Expenditure	Cumulative To Date Expenditure	Budget Balance	% spent as end of September 2023
			Period from 15 Sep 2021 to 30 June 2023	Period from 1 July 2023 to 30 September 2023			
		a	b	c	d = b + c	e = a - d	f = d / a * 100
I	Personnel (Salaries and benefits)	5,670,479	1,388,377	214,815	1,603,192	4,067,287	28%
II	Travel and Transportations	434,514	91,140	11,252	102,392	332,122	24%
III	Supplies	610,151	129,473	20,585	150,058	460,093	25%
IV	Contractual/Sub-grants	5,690,000	1,361,814	471,192	1,833,006	3,856,994	32%
V	Others	1,713,500	682,817	230,867	913,684	799,816	53%
	<b>Total Direct Costs</b>	<b>14,118,644</b>	<b>3,653,622</b>	<b>948,711</b>	<b>4,602,332</b>	<b>9,516,312</b>	33%
	Total Indirect Costs	2,881,356	745,637	193,615	939,252	1,942,104	33%
	<b>GRAND TOTAL</b>	<b>17,000,000</b>	<b>4,399,260</b>	<b>1,142,326</b>	<b>5,541,584</b>	<b>11,458,416</b>	<b>33%</b>

Obligated Amount	Cumulative Disbursement as of September 2023	Expenditure In September 2023	Balance end of September 2023	% Spent as of the end of September 2023
a	b	c	d = a - b - c	e = ((b + c) / a) * 100
3,000,000	2,230,864	560,830	208,306	93%

Note: All figures are rounded.

## Annex: Activity staff list

Name of Staff	Title	Duty Station	Status	Remarks
Michael J. Akester	Chief of Party	Yangon	Active	
Aung Zaw Win	Deputy Chief of Party	Mandalay	Active	
Kyaw Moe Oo	Field Coordinator	Northern Shan State	Active	
Yu Maung	Field Coordinator	Kachin	Active	
Kyaw Win Khaing	Field Coordinator	Mandalay	Active	
Aung Myo Lwin	Field Coordinator	Sagaing	Active	
Sai Noot	Field Coordinator	Eastern Shan State	Active	
Quennie Vi Rizaldo	Human Nutrition Specialist	Yangon	Active	
Syed Aman Ali	Monitoring, Evaluation, and Learning Specialist	Penang, Malaysia	Active	
Hsu Myat Nway	Monitoring & Evaluation Coordinator	Yangon	Active	
Naw Christine Pan Wai	Monitoring & Evaluation Coordinator	Yangon	Active	
Su Su Mon	Field & Data Associate	Northern Shan State	Active	
Kay Khaing Soe	Administrative Assistant	Mandalay	Active	
Nay Zar Tun	Finance Officer	Mandalay	Active	
Lae Lae Kyaw	Finance Officer	Yangon	Active	
Thandar Soe	Senior Project Accountant	Yangon	Active	End of Contract 13 Jan 2023
May Thu Oo	Financial Controller	Yangon	Active	
New New Kyu	Cleaner	Mandalay	Active	
Than Than Win	Cleaner	Yangon	Active	
Aung Myat Thu	Market System Specialist	Yangon	Active	
Tin Tin Oo	Gender & Inclusion Specialist	Yangon	Active	
Hnin Wyut Hmone Soe	Information, Education, Communication & Training Assistant	Mandalay	Active	
Nang Tin May Win	Information, Education, Communication & Training Coordinator	Mandalay	Active	
Than Than Swe	Project Support Officer	Yangon	Active	

## **Annex: Files**

- [1. Annex Business Planning Report](#)
- [2. Annex Lessons Learned Workshop 2023](#)
- [3. Annex BMP Guidelines](#)
- [4. Annex Carp Breeding](#)
- [5. Annex F4L Staff List 24102023](#)
- [6. Annex Final Report OD and CB WorldFish F4L project - 2023](#)
- [7. Annex F4L Performance Assessment Report DRAFT VERSION for USAID](#)
- [8. Annex Y4 WASH Survey Database 2023-10-26](#)
- [9. Annex Y4 MDDW Survey Database 2023-10-26](#)
- [10. Annex Y4 BMP Survey Database 2023-10-25](#)
- [11. Annex BMP Survey Database Y2&3 Grow-out farmers](#)
- [12. Annex Y4 Fish Handling Practices for Fish Vendors](#)
- [13. Annex Y4 Project Participant Database 2023-10-26](#)
- [14. Annex Y4 Distribution Item Vege Revolving Fund 2023-10-26](#)
- [15. Annex Y4 Nursery Hatchery FeedMaker Database 2023-10-26](#)
- [16. Annex Y4 Production Database 2023-10-26](#)
- [17. Annex Y4 Market Actors Database 2023-10-26](#)
- [18. Annex Y4 IECT Documentation List](#)
- [19. Annex Y4 Village Link Htwet Toe app report](#)
- [20. Annex F4L APR Y4 22-23 IECT](#)
- [21. Annex Y4 F4L Participant Training Database](#)
- [22. Annex Y4 Staff Training Database](#)
- [23. Annex Y4 Shwe Ngar Golden Fish app report](#)
- [24. Annex F4L Success Story Nursery Farm Eng](#)
- [25. Annex F4L Field Photo Stories](#)
- [26. Annex F4L IECT Materials Distributed to IPs](#)
- [27. Annex Y4 Greenovator Green Way App report](#)