



Asia Farmer-to-Farmer

The Asia Farmer-to-Farmer (F2F) Program goal is to generate rapid, sustainable, and broad-based food security and economic growth in the agricultural sector. A secondary goal is to increase the American public's understanding of international development issues and programs and international understanding of the U.S. and U.S. development programs. Winrock International was awarded the five-year Asia F2F Program on September 2013. Specifically in Burma, F2F activities are aligned with USAID/Burma's Food Security and Agricultural Transition Framework to improve productivity and profitability of agriculture; increase private sector engagement in the agriculture sector; and introduce innovative technologies for rural economic development.

In the first three years of the program (October 2013 – September 2016), Burma F2F completed 56 volunteer trips to support rural development and increased incomes for smallholder farmers. Volunteers trained and assisted 4,530 farmers and other agriculture sector stakeholders (34% women) to improve productivity, increase food safety, and strengthen farmer-serving organizations in Mandalay, Sagaing, Bago, Ayeyarwaddy, Magway, and Yangon regions, as well as in Chin and Southern Shan states. Introduction of simple, low-cost technologies in the livestock, aquaculture, and horticulture sectors has helped smallholder farmers reduce costs, improve productivity, and increase sales.

Burma F2F Assignments in Poultry & Livestock

Poultry

Improved Poultry Feed Formulation

Leonard Obaldo, 9/24/2014-9/27/2014, Mandalay and Madaya

Host organization: Mandalay Livestock Development Company Limited

Dr. Obaldo provided training on poultry digestion, nutritional requirements, and nutritional value of locally available feed ingredients. He also led hands-on demonstrations on how to calculate poultry feed formulations manually and using an Excel sheet. After the training, a local feed mill (Kyaw Super) increased its feed sales by 200 tons per month after calculating and producing improved feed formulations.

Food Safety Training and HACCP Development

Scott Haskell, 12/20/2014-1/6/2015, Chanmyatharyar Ward, Pyigyitakhon Township, Mandalay Region

Host organization: Mandalay Livestock Development Co. Ltd.; Myanmar Veterinary Association

The assignment objectives were to improve knowledge on food safety and HACCP principles and improve sanitary standards of the poultry processing plant with the goal of increasing incomes from quality products that meet food safety standards. Dr. Haskell conducted training of MLDC members and staff on food safety and HACCP, developed a HACCP plan and required documents for the poultry processing plant, and provided recommendations for improving food safety. Following the training, MLDC developed and distributed food safety leaflets to disseminate the information to a wider audience as well as implemented a pest control program, including pest proofing of the poultry processing facilities. After the training, MLDC began implementing cleaning and sanitation protocols introduced by the volunteer.

"I was happy to see my assignment progress from the very first day to the last! What fantastic work, help and evaluation everyone at MLDC provided me! The joy in participation was palpable. I felt honored to be able to offer a training program and subsequent assessment that empowered staff and administration to understand the HACCP food safety process. There was a sense that the training Program had a positive impact on everyone. The participants were eager to implement the Program recommendations."

--volunteer Scott Haskell



Compost Plan Development and Training on Composting Poultry Waste Glen Fukumoto and Jonathan Deenik, 7/4/2015-7/12/2015, Mandalay Region

Host: Mandalay Livestock Development Co. Ltd. (MLDC)

Mr. Fukumoto and Dr. Deenik conducted training workshops for MLDC's poultry processing plant on compost planning, livestock waste and nutrient management, and basic concepts of composting and soil fertility. Participants gained knowledge in basic composting principals including oxygen management, monitoring tools, and pile construction to enable them to improve waste management practices within the processing plant and to increase incomes through compost production and sales.

Composting Livestock and Poultry Manure Glen Fukumoto and Jonathan Deenik, 7/13/2015-7/18/2015, Yangon

Host organization: Myanmar Livestock Resources Development Research Association (MLRDA)

Mr. Fukumoto and Dr. Deenik provided training to MLRDA members and poultry and livestock farmers on composting principles, dry litter technology, and compost utilization. Through hands-on demonstrations, participants gained the knowledge and techniques to troubleshoot issues during construction of a compost pile. Following the training, MLRDA worked with farmers to establish a demonstration site for composting waste; this will enable poultry and livestock farmers to increase income from the sale of compost.

Evaporated Cooling Houses for Layer Production Jonathan Moyle, 1/16/17-1/28/17, Kyaukse and Mandalay

Host organization: Mandalay Livestock Development Co., Ltd. (MLDCL)

Dr. Moyle conducted training for small scale farmers and MLDCL members on how to set up evaporated cooling systems for poultry houses and provided information on biosecurity, the respiratory anatomy and physiology of chickens, and how to manage temperatures and humidity for poultry processing. Through the training, farmers were able to understand the need to incorporate biosecurity into their business plans

"I am so glad to have this training before we start stocking. We learn a lot of things to improve from the poultry housing design, installing evaporated cooling system, air flow-out direction, to how to manage in inconsistent electricity supply. Many things to change. I feel we are very lucky to know these technical backgrounds in evaporated cooling systems."

--training participant, Dr. Nay Thurin

and realized that there is more to managing cooling systems than just turning on a switch. By incorporating improved cooling and biosecurity practices into their businesses, farmers will be able to improve poultry health as well as profitability. MLDCL is committed to serving as a demonstration site for other small scale farmers once their evaporated cooling system is set up.

Livestock

Improved Management of Small Ruminants Daniel Miller, 5/30/2014-6/6/2014, Shwebo Township, Sagaing Region

Host organization: Pyi Shwe Bo Multi-Development Public Co. Ltd

Dr. Miller trained participants on small ruminant nutrition, health, record keeping, breeding, genetic selection, forage storage, and parasite control. Since the training, Pyi Shwe Bo selected three bucks for breeding that have the best conformation for meat goats and have castrated and sold all excess goats. In addition, farmers that have implemented the improved practices have reduced kid mortality; for example, one farmer reduced deaths from 18 to only 1 per year.

Improved Dairy Cattle Management Daniel Miller, 6/7/2014-6/17/2014, Pyigyitakhon Township, Mandalay Region

Host organization: Mandalay Livestock Development Co., Ltd.



Dr. Miller trained participants in calf care, cattle management, disease prevention, hoof care, nutrition and feeding practices, and record keeping. Applying information from the training, dairy farmers have improved barn and lot sanitation, utilized feed supplements for their animals, and fed their calves colostrum. The adoption of these improved practices has enabled them to improve the quality of their calves as well as the quality and production of milk.

Upgrading Small Ruminant Operations

Robert Spencer, 10/11/2014-10/18/2014 Yenangyaung Township, Magway Region

Host organization: Goat Farmers Group (Yenangyaung)

Mr. Spencer conducted a workshop that covered improved small ruminant production and management practices including nutrition, enterprise budgeting, digestive physiology, breed selection, and body condition evaluation. Mr. Spencer provided participants with body condition score charts, FAMACHA charts, and small ruminant pocket guides. The training allowed small ruminant farmers to improve the production, herd size, and overall health of their animals, increasing their gross sales by \$14,452 in one year.

Livestock Business Management

Robert Spencer, 10/22/2014-10/30/2014, Chanmyatharyar Ward, Pyigyitakhon Township, Mandalay Region

Host organization: Mandalay Livestock Development Co. Ltd.

Mr. Spencer used feedback during his field visits to develop training materials that addressed the farmers' needs. His training included how to develop a business plan, how to use enterprise budgeting for layers and broilers, fisheries, and meat goats, as well as how to use cash flow and balance statements. Mr. Spencer conducted an interactive session using an Excel spreadsheet to demonstrate some of the training concepts. After the training, farmers reported that using these new resources have allowed them to consider factors affecting their profit. Through the training, participants also realized the potential for farm diversification as a means to reduce risk management and increase income.

"This was the most active/vocal group I have ever seen when it came to working on enterprise budgets; we had a lot of fun."

--volunteer Robert Spencer

Improved Small Ruminant Farming Practices

Daniel Miller, 11/2/2014-11/17/2014, Pyay Township, Magway Region and Pyawbwe Township, Mandalay Region

Host organization: Individual Farmers-Aunglan Township, Livestock Farmers Group in Pyawbwe Township

Dr. Miller trained current and prospective small ruminant farmers on ruminant digestion, nutrition, forage management, vaccinations, genetic selection, and recordkeeping. He also provided hands-on demonstrations of castration, clinical examination, and hoof care and trimming. Following the training, farmers built raised housing to improve sanitation and ventilation for goats and are now feeding their newborn goats colostrum to improve their nutrition. A total of 12 farmers increased their annual gross sales by a total of \$223,888 following the training.

Introducing Nucleus Goat Farming Practices

Daniel Miller, 11/18/2014-11/23/2014, Ayeyarwaddy Region

Host organization: Thadar Consortium

Dr. Miller conducted a large group discussion and presentation on small ruminant management and how those principals could also be applied to water buffalo. The training was conducted as a question and answer session in which Dr. Miller presented additional information and photos of proper animal health and production practices. From the training, 30 farmers learned to raise goats in the Delta region and increased their net incomes from goat farming by a total of \$5,918 per year.



Improving Forage Management

Joshua Ringer, 1/10/2015-1/29/2015, Butalin Township, Sagaing Region and Pakkokhu Township, Magway Region

Host organization: Ywartharywar San Pya Goat Farm/Golden Global Group and Farmers from ADRA Myanmar - SLIM Project

Dr. Ringer and a colleague from the Philippines, Mr. Adang, conducted a participatory training to help farmers improve their goat production skills and management. Dr. Ringer and Mr. Adang developed several tools for the participants, including a forage and feeding seasonal calendar, local forages matrix, feed source and grazing area mapping exercise, silage making process map, agricultural by-products process map, and a forage and feeding improvement action planning tool. Following the training, farmers made immediate changes to their practices, including not allowing their goats to graze freely and changing the height of the Napier grass. Participants are now able to recognize firsthand how important feeding ratios are for improved goat production, which has increased the growth rate of their goats.

Zero Grazing Small Ruminant Management

Daniel Miller, 3/27/2015-4/9/2015, Kyaukse Township, Mandalay Region

Host organization: Individual Goat Farmers Group-Kyaukse Township

Dr. Miller's trainings covered ruminant feeding and nutrition, use of body scoring to determine feeding levels, storing forages, supplemental grazing products, and immunology. After the training, farmers from the Kyaukse Township reduced kid mortality from diarrhea by 25% after starting to give colostrum to newborn goats. On average, each farmer can now sell 16 more goats a year.

"The training was very useful not only for the farmers but also for community animal health workers (CAHW). This kind of training should be conducted in other areas around the country."

--CAHW, U Maung Ko

Organizational and Business Development of Livestock Associations

Marissa Burkett and Darren Watkins, 7/11/2015-8/16/2015, Yangon

Host organization: Myanmar Livestock Resources Development Research Association (MLRDA); Myanmar Livestock Federation

A team of volunteers from Thunderbird University conducted workshops on strategic planning and organizational development and completed comprehensive organizational plans for three livestock associations. The SWOT analysis exercise enabled each organization to critically analyze how they function and identify gaps in program development and new opportunities to provide services. As a result of the training, MLRDA implemented concrete standard operating procedures, mostly related to financial management, and conducted a stakeholder analysis to identify key members who are supportive of MLRDA's goals as foundational steps to enhancing member services, external outreach, and organizational cohesion.

Improved Caprine and Herd Health Management

Daniel Miller, 9/10/2015-9/14/2015, Myingyan Township, Mandalay Region

Host organization: Myingyan Township Livestock Association

Dr. Miller's training covered information on body condition scoring, reproduction, genetic selection, record keeping, and disease management. The training has enabled the farmers to produce healthier goats, reduce goat mortality from 30% to almost 0%, and, in turn, increase sales. Information on Dr. Miller's training was distributed among three local media networks.

Development of Training Module and Handbook on Small Ruminant Management

Daniel Miller, 9/15/2015-9/21/2015, Yangon

Host organization: Myanmar Livestock Federation

Dr. Miller developed a training module that included information on nutrition, care for newborns, disease control, reproduction, and management. MLF published the handbook for small ruminant production and distributed over 1000 copies to farmers and state and regional associations.



USAID
FROM THE AMERICAN PEOPLE



Disaster Management for Livestock

Kelly Crowdis and Susan Stewart, 11/28/15-12/21/15, Yangon and Mandalay

Host organization: Myanmar Livestock Federation (MLF); Myanmar Livestock Federation -Mandalay Region

In Mandalay, Ms. Crowdis and Ms. Stewart visited villages that previously experienced flooding. They then conducted participatory training, mainly for veterinary service providers, where 30 participants compiled their experiences to form recommendations for farmers and villages to care for their livestock before, during, and after a disaster. In Yangon, the volunteers conducted a workshop for 23 participants including small and large farmers, business people, NGO and CBO staff, MLF advisors, and

“I very much enjoyed the opportunity to work... on an important project with the potential for larger positive impact. I am delighted to see the Mandalay group have the impetus to continue their good work into not just disaster response but into planning and preparation, which I feel will have a far reaching impact.”

--volunteer, Susan Stewart

veterinarians. This workshop also compiled previous disaster experience and lessons and then introduced Livestock Emergency Guidelines and Standards (LEGS) and used this experience to prepare a practical manual. After the trainings, MLF and MLF Mandalay Region distributed the guidelines that were developed by the volunteers to over 1,300 individuals and organizations; they also distributed the guidelines to the Livestock Breeding and Veterinary Department (LBVD).

Training of Trainers on Small Ruminant Management

Daniel Miller, 12/20/15-12/27/15, Yangon

Host organization: Myanmar Livestock Federation

Dr. Miller conducted a training of trainers and developed a training module on small ruminant management for 54 Federation members, veterinarians, farmers, and NGO staff.

Improved Swine Production Management

Rajesh Jha and Halina Zaleski, 6/1/16-6/19/16, Mandalay and Yangon

Host organization: Myanmar Livestock Federation (MLF) Individual Pig Farmers Mandalay, MLF individual Pig Farmers Yangon

Volunteers Rajesh Jha and Halina Zaleski provided training on swine production, including nutrition and feed, breeding, genetic improvement, housing, disease control and biosecurity, waste management, and record keeping. After visiting various swine farms to assess the specific needs and challenges, the volunteers tailored their trainings to be more applicable for the 124 MLF members in attendance. They also addressed diseases affecting swine in Myanmar and were able to provide specific examples based on similar outbreaks. With the reduction of swine disease and greater knowledge on feed and piglet management, swine farmers will be able to produce higher quality livestock to increase incomes and sustainability.

Developing Livestock Waste Management Guidelines

Glen Fukumoto, 7/16/16-7/31/16, Yangon

Host organization: Myanmar Livestock Federation

The assignment objectives were to conduct an assessment of and develop simple guidelines for livestock waste management systems, as well as to conduct a workshop to outline these guidelines. In addition to meeting these objectives, the volunteer created an index of reference materials for the guidelines and provided a presentation to share the farm assessments of dairy, goat/sheep, and poultry-broiler operations and best management practices for livestock nutrient management planning. Farmers participating in the site assessments learned about their operation’s nutrient management practices and improvements needed in the future to further reduce any environmental impacts. These new practices have been replicated on almost every farm by direct training participants and have increased productivity and reduced production costs.



Livestock Dictionary Development

Julianne Hammink and Linda Chu, 12/19/2016-1/3/2017, Yangon

Host organization: Silver Sea Media

Ms. Hammink and Ms. Chu provided training in developing an English – Myanmar dictionary for livestock farmers. Members of Silver Sea Media and the Myanmar Livestock Federation will continue to build on the dictionary that was initially created during the assignment period. The final product will be available in print and electronic app format. As most of the technical information regarding livestock farming is available in English, an English – Myanmar Livestock Dictionary will allow farmers to better understand technical terms and improve on their production practices.

Training on Livestock Marketing

William Nichols, 9/22/2016 – 9/29/2016, Mandalay

Host organization: Myanmar Livestock Federation -Mandalay Region

Mr. Nichols conducted training on livestock marketing, including pricing, negotiation, customer needs assessments, and creating a marketing plan. During the assignment Mr. Nichols encouraged the participants to share their lessons learned, which provided insight to how each person planned to apply these marketing techniques to his or her business. Applied marketing techniques have the potential to help livestock farmers grow their customer base and generate greater sales and profit. After the training, the farmers demonstrated that they internalized the marketing lessons to apply to their livestock businesses.

Food Safety Training for Livestock Processors

Y. Martin Lo, 12/5/2016 – 12/19/2016, Mandalay

Host organization: Livestock Processors in Mandalay

Dr. Lo conducted site visits at poultry and dairy processing facilities in Yangon and Mandalay to tailor his food safety trainings to address the most critical observed issues. He provided information on Hazard Analysis and Critical Control Points (HACCP), and instructed trainees to analyze the critical control points during poultry and dairy processing within their operations. The participants were actively engaged in discussing preventative measures needed to maintain food safety, thus demonstrating their new understanding of HACCP concepts. Dr. Lo also conducted a public seminar on safe food handling, food

“On behalf of Myanmar farmers, MLF appreciates Winrock’s USAID-Funded Asia Farmer-to-Farmer Program for their kind, useful and energetic support for technical improvement. This seminar was a very first step for food safety and will be a historic moment for Myanmar.”

--Dr. Nay Thuyein, Secretary of MLF (Mandalay)

safety standards, food borne diseases, traceability, and examples of food safety problems. This seminar was well attended by local livestock producers and processors, as well as university professors who teach food safety. It is expected that these training materials will be disseminated to other livestock producers and processors throughout the country through the Mandalay Livestock Federation’s network, leading to further adoption of GMP and HACCP standards in country.