

Agriculture Sustainability Activity

Reduced Rice Post-Harvest Loss Contributes to Increased Profits For Farmers' Association

PROJECT LOCATION	Liberia
TIMEFRAME	2021-2022
COUNTRY PROJECT	Rice
HOST	Farmers In Action for Rice Production

In rural Liberia the rice post-harvest system is susceptible to damage and likely to suffer qualitative and quantitative losses. Like most farmer-based associations in Liberia, Farmers in Action for Rice Production was losing between 10-40% of production due to insects and rodents entering storage containers as well as spoiling, bruising, disease attacks, spillage, contamination, and poor storage practices. The association saw harvest management vital to their future as it greatly impacts raw material supply, income, and food security in the community.

Founded in 2011 by the USAID FED project in Suomai-Kolliemei Town, Voinjama District, Lofa County, Farmers in Action for Rice Production consists of 49 rice producer members (26 female and 23 male). Farmers in Action for Rice Production currently operates 122.50 hectares (2.50 hectares per farmer) and contributes to 15% of the raw material supply at Selma Agriculture Development Cooperative (SADC), a mill in Voinjama District, Lofa County. Due to the losses associated with spoiling, bruising, pests and disease attacks, spillage, contamination, poor storage practices, and the need for improved rice quality and increased income, Farmers in Action for Rice Production reached out to the United States Agency for International Development (USAID) funded, Catholic Relief Services (CRS) implemented Agriculture Sustainability Activity (ASA) for technical support on rice post-harvest management.

ASA uses the Farmer-to-Farmer (F2F) model to provide technical assistance to agriculture organizations through volunteer trainings to increase the availability of domestically produced and processed rice and cassava. During implementation, the Activity shifted to a Paired Remote Volunteer (PRV) model – a local volunteer paired with a U.S.-based volunteer to allow program implementation during COVID-related travel restrictions. ASA engaged local volunteer Amis Nah, a Research Officer at the Post-Harvest & Food Processing Department, Central Agricultural Research Institute (CARI), and U.S.-based volunteer Dr. Whitney Brim-DeForest, a Rice Advisor from California. Both collaborated to strengthen the capacity and equip the host's members with practical knowledge in rice post-harvest handling practices and storage.



Figure 1. ASA volunteer Ms. Amis Nah bundles harvested rice with a trainee.

Ms. Nah, with remote support from Dr. Brim-DeForest, conducted trainings from October 13-20, 2021, to 49 participants (10 male, 14 female, and 25 youth) in the areas of post-harvest loss and storage. During the participatory training, Ms. Nah visited the farmers, observed traditional methods, and recommended improved practices. Both volunteers recommended that the farmers' association use post-harvest techniques such as packaging, cooling, storage, cleaning, sorting and transportation, and find appropriate tools such as tarpaulins, knives, cooling bow, and bags.

When asked about the collaboration process and training implementation, Dr. Brim-DeForest noted, "My partner on the ground in Liberia, Ms. Amis Nah, delivered an excellent training in collaboration with the host group, Farmers in Action in Rice Production. She was able to show the participants simple and effective methods for reducing post-harvest losses in rice, enabling them to implement the practices on their own."

Following the 2021 rice harvest, Farmers in Action for Rice Production used the volunteers' recommendations to minimize post-harvest loss across all farmers from 10-40% to 5-20%. Using data from SADC mill, the farmers' association found that out of 2,586 bags of rice supplied, they lost 117.60 bags, resulting in 4.55% loss. Previously the association supplied 1,960 bags and lost 196 bags, a 10% loss. Profits also improved following ASA's interventions. In 2020, profits were USD \$18,874.80 and following the volunteers' assistance, they increased to USD \$26,641.88, ultimately an increase of 21.65%. By improving and introducing quality-enhancing techniques, farmers reduced wastages, thus allowing the organization to generate more income and increase its contribution of raw material supply to SADC.

Farmers in Action for Rice Production's chairman Alphonso Jacob was especially pleased with the training, "Our production this year has yielded us fruitful result. In the past handling post-harvest management was a major problem in our production period, but with CRS-ASA Project through the funding of USAID, we are now knowledgeable in handling post-harvest."

Looking forward, Farmers in Action for Rice Production hopes to become a legal farmers' cooperative through the Liberian Community Development Agency (CDA). Agricultural cooperatives play a key role in linking farmers to markets, providing a collective platform for negotiating with buyers, offering aggregating, marketing and processing services, providing distribution channels for primary products, and delivering training, business planning and capacity building services. Improved rice post-harvest management, decreased post-harvest loss, and increased profits are getting Farmers in Action for Rice Production closer to this goal and meeting the conditions required to be a cooperative.



Figure 2 Farmers in Action for Rice Production's farmers thresh the rice.



Figure 3. Ms. Nah (far right) with Farmers in Action for Rice Production members.