

Sustainable Agriculture for Enhanced Resilience (SAfER)

Agnes Tay says that since adopting the project's appropriate farming techniques her family has corn and vegetables even during prolonged drought. *Photo Jennifer Hardy/CRS*

CRS' Response, Recovery and Resilience (R3) program

Cyclones, tornados, drought, cholera and devastating crop disease are among the hazards facing communities that CRS has been helping in Guatemala, Nicaragua, Haiti, India, Bangladesh, Vietnam and Indonesia. In 2013, CRS launched the R3 program to reduce underserved vulnerable communities' risks to multiple natural disasters and build their resilience. A strong dimension of all of these projects was to better understand how people perceive their own resilience. Disaster management and resilience plans developed by communities, households and farmers detailed ways to mitigate and respond to disasters.

Sustainable Agriculture for Enhanced Resilience (SAfER)

This project aimed at increasing people's resilience to natural disasters in 10 remote, drought-prone villages in Indonesia's East Nusa Tenggara province. Farmers face dramatic changes in climate and rainfall patterns in this area yet had little information about drought-resilient agricultural practices and had received little or no support for adapting to changing circumstances.

PROJECT OVERVIEW

The project supported 1,500 smallholder farmers (40 percent of whom were women) who had faced extremely low food production as a result of erratic rainfall and recurrent, prolonged dry seasons over the previous 5 to 6 years.

CRS and its partners, along with key government stakeholders, worked together to plan strategies and activities to build food production through improved water management and to strengthen capacities to reduce the risks associated with erratic rainfall. The project also focused on building farmers' skills for improved, stress-resilient farming practices¹, from sowing to storage.

Disaster risk reduction and climate change adaptation principles were incorporated to increase the resilience of at-risk communities, and protect and enhance the local ecosystems and human resources needed to reduce overall vulnerability.

1,500

SMALLHOLDER FARMERS WERE HELPED TO STRENGTHEN THEIR RESILIENCE TO DROUGHT

Improved farming systems included the promotion of soil and water conservation, training in farm management, encouraging crop diversification through cultivation of local stress-resilient food-crop varieties, and promoting farming practices and technologies. The practices optimized the use of locally available inputs such as cow dung as fertilizer and plants with crop-protection qualities i.e. those that retain moisture or that repel pests.

Government agricultural extension officers participated in SAfER training on appropriate farming techniques to strengthen their capacity to continue supporting their communities after the end of the project.



AT A GLANCE

Project	Sustainable Agriculture for Enhanced Resilience (SAfER)
Location	Belu district, East Nusa Tenggara province, Indonesia
Duration	October 2013 - May 2016
Partners	<ul style="list-style-type: none">■ Panitia Pengembangan Sosial Ekonomi Keuskupan Atambua (PPSE-KA), the Socio-Economic Development Commission, Diocese of Atambua■ Yayasan Mitra Tani Mandiri (YMTM), the Reliance Farmers Partner Foundation
Funder	CRS private donors
Budget	US\$706,563

At the village level, participant communities were actively engaged, from the baseline assessment to beneficiary selection, and in the formation of farmer groups. The community also took part in project implementation, including regular monitoring. All stakeholders participated in the project's annual learning events, where they reflected on accomplishments, challenges, solutions and planning for the following year.

1. Appropriate farming practices with water and soil conservation techniques to mitigate the risk of erratic rainfall / prolonged drought. Techniques include line sowing, row planting, use of organic fertilizer, terracing, etc.

KEY COMPONENTS

Community placements To support farmers to adopt improved farming practices, the SAFER project engaged local partner field officers who lived in the village of their assignment for 3 weeks each month, to build a high level of trust with the community and increase the transfer of knowledge. This enabled the project team to understand the context and challenges that farmers faced daily, and thus support them more efficiently.

Small-scale mitigation construction projects
Rehabilitating wells, setting up rainwater catchment

systems and replanting areas around springs helped prevent landslides and protect water sources for household use and farming, especially during the prolonged drought.

Learning through observation Farmers studied the difference in yields between plots where sustainable agriculture and water conservation techniques were used and those using traditional practices. This enabled them to decide which practices to choose and encouraged them to adopt conservation techniques for improved yields in these drought-prone areas.

RESULTS

The project provided poor farmers with knowledge and skills on appropriate farming techniques to help them mitigate the risks from prolonged dry seasons. Land in the area is hilly and dry. Before SAFER, farmers practiced slash-and-burn clearing and depended on chemical fertilizer for crop production. The degraded soils did not retain moisture and were swept away during rains. SAFER's farming techniques included land preparation, organic fertilizer use, pit planting, terracing, and the growing of slope-protecting plants. The water and soil conservation activities enabled the community to cultivate vegetables despite limited water. Assigning field officers to live in a village to ensure transfer of knowledge proved very effective.

The formation of farmers' groups facilitated by the project enabled farmers to engage with government representatives much more effectively as a recognized group than as individuals. The groups were able to receive farming inputs and extension support. Identifying the differences (in quality, quantity, and growth time) in yields resulting from sustainable agriculture techniques, and those resulting from traditional techniques, empowered farmers to make their own decisions on their approach to farming.

The integration of disaster risk reduction and climate change adaptation practices enabled farmers to adopt appropriate farming techniques for changed circumstances. Small-scale measures such as terracing and the planting of perennial trees in landslide-prone areas mitigated the risk of landslides and offered protection from strong winds. An area where trees were planted by the community to protect deforested hillsides from landslides also protected water sources and wells from landslide damage.

The project included exchange visits during which CRS staff and partners from Indonesia and Timor-Leste learned from each other's drought-resilience projects.

LEARNINGS

SAFER integrated activities such as agro-business enterprises, market surveys and collective marketing in the last 6 months of the project. This approach had positive outcomes and should thus be integrated earlier in future projects.



A slope during and after landslide protection work. Photo by CRS staff

WIDER REACH

The project originally focused on 1,500 farmers but by the end of March 2016 a total of 1,811 had participated in project activities and adopted the appropriate farming techniques. The additional farmers had observed and copied the successes of the SAFER project. The small-scale mitigation activities, such as replanting areas around springs and wells, also benefited communities in neighboring villages that also collect water from the wells.

COMMUNITY VOICES

Agnes Tay (see cover), 34, and her husband Blasius Meak, 56, have four children and live in the isolated Korbou hamlet in landslide-prone Leosama village.

“People are used to farming using traditional methods. We have a tough life. It was painful to see my father work by himself to cultivate corn with low yields because he just went slashing, burning and planting the seeds.

“When the project introduced new farming techniques, my husband was very skeptical about adopting the terracing, line sowing and row planting. He thought I was wasting my time. But I was hopeful and spoke to some women to form a group and work together. This made things easier. And finally he saw the neat and organized corn farms using the

Aloysius Tes, 34, lives in Sisifatuberal village, which has a very poor access road. “In the dry season, it’s very difficult to get water. Over the last 3 years, the rainfall has been more erratic so we could not plan farming activities properly. Last year our corn crops failed. It was very difficult for a poor farmer like myself.

“The project introduced new farming techniques. We formed farmer groups and worked on our farmlands together. I was pessimistic but this year I have managed to harvest the farm five times already. With the assistance of the PPSE-KA field team, we practiced the techniques. At first, it looked like so much work. We made terraces using an A-frame, and used organic fertilizers and pesticides, row planting and line sowing. I could see the difference in the growth of the crops compared to the traditional techniques I had applied before. This year, our farmers’ group members’ crops were successful. Banana, cassava and corn are growing very well and are fruitful, very different from last year’s yields.”

“I am more motivated to continue the practices introduced. If we farmers consistently practice this, we can provide our own food for our families for the whole year. We will enhance our resilience”.

line-sowing technique. He was happy and motivated. It made me proud and more motivated to plant vegetables.

“I realized that the weather was changing. Two years ago, the rainfall was very good and came as predicted. This year was very dry and hot. The rainy season came 3 months late. We have less corn compared to last year. Our neighbors—who did not apply improved farming techniques—harvested nothing this year and their corn plants were dead. I showed them that our corn was still okay. Now they are motivated to adopt our techniques .”

“We are stronger now; we have our corn and vegetables for our families even during prolonged drought”.



Farmer Aloysius Tes. Photo by CRS staff

SUSTAINABILITY

Farmers say that the partnership model used among PPSE-KA, YMTM, and the government will remain after the project ends. This has enabled farmers to access and receive support from village and district government entities. Farmers received tractors, corn seeds, corn-milling machines, perennial seedlings, and support from the village allocation fund². Learning to work together in the farmer groups has greatly benefitted the farmers by reducing the heavy burden of farming activities. Farmers believe that they will continue to work together in these groups.

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2. In mid-2015, the national government launched Alokasi Dana Desa (ADD) or the village allocation fund, which aims to increase the development of both physical and non-physical infrastructure to encourage community participation for empowerment and improvement of living standards.

CATHOLIC RELIEF SERVICES

Catholic Relief Services is the official international humanitarian agency of the United States Catholic community. CRS’ relief and development work is accomplished through programs of emergency response, HIV, health, agriculture, education, microfinance and peacebuilding. CRS eases suffering and provides assistance to people in need in more than 100 countries, without regard to race, religion or nationality.