Food and Agriculture Organization
of the United Nations








Typhoon Haiyan

PORTRAITS OF RESILIENCE








The Philippines

Typhoon Haiyan

PORTRAITS OF RESILIENCE

Food and Agriculture Organization of the United Nations
Manila, 2015

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Cerilo Daguil, a farmer and beneficiary of the emergency and early recovery rice and corn programme, works on the community Sloping Agricultural Land Technology (SALT) site in San Isidro, Leyte.

Message from FAO

When Typhoon Haiyan struck the Visayas region of the central Philippines on 8 November 2013, it was considered one of the strongest typhoons to ever make landfall. Thousands of lives were lost, millions were left homeless and the agriculture sector was decimated.

From our first exchanges with the Government immediately after the typhoon, both institutions were aware that there was no time to lose. We had to act fast in a coordinated manner to help farmers clear and replant their fields to secure the first harvest of 2014.

Thanks to very quick support from our resource partners, we were able to complement the Government's relief and recovery efforts to help affected farming and fishing communities quickly begin restoring their livelihoods.

This timely intervention prevented serious food security implications in the affected communities and regions. It empowered vulnerable families to immediately resume producing food and earning an income, while helping them to rebuild their livelihoods to better withstand shocks in the future.

Over the course of our Haiyan Response Programme, FAO mobilized more than 150 staff in seven field offices across three regions of the country to assist more than 230 000 farming and fishing families with relief, recovery and rehabilitation assistance, including agricultural inputs, technical support and training.

FAO's response to Typhoon Haiyan became a flagship programme for the Organization. FAO declared its first corporate "Level 3" emergency to respond to the large-scale impacts of the disaster on food security and implemented its largest programme in the Philippines in close collaboration with the Department of Agriculture and its attached agencies, from the national to the barangay level.

During my time as FAO Representative in the Philippines, I have been fortunate to meet with remarkable families assisted through our programme, as well as committed officials and employees of the Government, and to see first-hand how this enormous disaster did not break the Filipino spirit. This spirit has been the inspiration in our work to rebuild and improve the resilience of agricultural livelihoods.

A lot has been achieved thanks to the collective efforts of a wide range of partners, including Government, donors, communities and particularly the affected farmers and fishers who have been the real backbone of this recovery and key to building community resilience to future disasters.

José Luis Fernandez
FAO Representative in the Philippines

Message from the GOVERNMENT

While FAO has been a partner of the Department of Agriculture for many decades, it was Typhoon Haiyan that truly tested and proved the strength and potential of our partnership.

Typhoon Haiyan left the agriculture sector with unprecedented challenges. We were concerned about its impact on food security, industries and the livelihood of farmers and fishers who were already among the poorest members of the population even before the storm.

Quick response was the call of the moment. The field units of the Department of Agriculture undertook the necessary clearing of farms and desilting of irrigation canals. Seed buffer stocks held were deployed to the affected areas. But these were not sufficient. FAO participated in the DA planning session that produced the Rehabilitation Assistance for Yolanda (RAY) and officially presented within the same month that Yolanda hit the country. The result of this cooperation ensured that no rice cropping cycle would be missed.

Without timely support, rice farmers who had lost their ready-to-harvest, harvested and newly planted rice would have been unable to re-plant and would have continued to depend on external food aid for another cropping cycle. DA was able to address this most urgent concern with the help of FAO. With quality seeds and fertilizer delivered to them in a timely manner, farmers were able to reap a good harvest and rapidly restore their household food security and income generation.

We also witnessed how FAO continued to demonstrate its strong support to the DA in the almost two years that followed the emergency phase. From the executive to the field level, our partnership remained solid and effective as we, hand-in-hand, worked for the recovery and rehabilitation of the affected population in four regions.

Together, DA and FAO have shown a concrete example of building back better. Today, beneficiary farmers and fisherfolk are experiencing improved production and incomes. More importantly, they are now well-positioned to contribute to ensuring stable food supply and strengthening the resilience of their communities to natural disasters.

On behalf of the Government of the Philippines, our farmers and fishers, we express our deepest gratitude to FAO and all of its donors and partners who made the Typhoon Haiyan Recovery and Rehabilitation programme possible.

HON. PROCESO J. ALCALA
Secretary
Department of Agriculture

The island of Tubabao, off the coast of Guiuan in Eastern Samar, was one of the first areas in the Philippines to be hit by super Typhoon Haiyan. Many farming families living here had received minimal assistance owing to the difficulty in transporting materials to these remote locations. As part of its Haiyan Recovery and Rehabilitation Programme, FAO delivered more than 7 000 livestock to typhoon-affected farmers including carabaos, cows, goats and pigs.

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Typhoon Haiyan

Introduction

When Typhoon Haiyan (locally known as Yolanda) swept through the central Philippines on 8 November 2013, the storm affected some 14.1 million people and caused more than USD 700 million in damage to the agriculture sector, severely threatening the country's food security.

The typhoon's record intensity destroyed crop fields, orchards, fishing boats and gears–virtually all productive assets that rural and coastal families base their livelihoods upon.

With one-third of the country's population relying on the agriculture sector for their livelihood, it was crucial to get people back on their feet as quickly as possible and assist them in rebuilding their lives.

Supporting government-led efforts

Building more resilient livelihoods was a key focus of FAO's Typhoon Haiyan Strategic Response Plan. In the immediate aftermath of Haiyan, FAO complemented Government efforts to restore the livelihoods of farmers in time for the imminent planting season, while enhancing local and national capacity to avoid or reduce the adverse effects of future hazards.

During the recovery and rehabilitation process, FAO worked closely with the Philippines Department of Agriculture and related government agencies at all levels, as well as local governments units, in addressing priorities identified in the Government's Damage and Loss Assessment and Reconstruction Assistance on Yolanda Plan.

FAO's overall Haiyan response

FAO's overall Typhoon Haiyan response comprised 22 projects benefitting more than 230 000 households (some 1.1 million people) of the most vulnerable agricultural and fisheries communities. Thanks to donor support of nearly USD 40 million, FAO provided assistance in four critical areas of intervention:

- rice and corn farming;
- coconut-based farming systems;
- fisheries and coastal communities; and
- coastal/mangrove forest rehabilitation (this cross-cutting component was integrated in various coconut-based farming systems and fisheries projects).

FAO placed Accountability to Affected Populations at the core of its emergency and rehabilitation programme cycle. In line with this, the views of communities were taken into account, so that both the process and what was being delivered addressed their needs, especially for the most vulnerable.

Two years after the typhoon ravaged coastal and farmland communities, the people who survived the storm–the farmers and fishers–are well on the road to recovery. This book is a tribute to their resilience and our work together to build back better their agricultural livelihoods after suffering such devastating losses.

To help build the resilience of small-scale rice, corn and coconut-based farming communities severely affected by Typhoon Haiyan, some 46 000 households were provided with recovery support in the form of water and pest-resistant storage containers, along with training that will help farmers protect their seeds and reduce post-harvest losses.

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Rice and Corn
EMERGENCY AND RECOVERY PHASE

Striking between two planting seasons, the typhoon wreaked havoc to more than 600 000 hectares of farmland in nine of the poorest provinces in central Philippines. An estimated one million farming households were affected and 1.1 million metric tonnes of crops lost.

The affected provinces are significant contributors to the total rice harvested in the Philippines and were among the highest producing areas for agricultural commodities, so urgent measures were undertaken to provide farmers with agricultural inputs and seeds for the upcoming planting season.

In the weeks immediately following the typhoon, FAO responded to an official Government request for support to affected rice farmers.

Within the first month after the typhoon, FAO reached about 53 000 rice and corn farming households with certified seeds, to allow rapid replanting. As a result of the timely provision of seeds, complemented by fertilizer, hand tools and water pumps, many farmers were able to harvest much higher yields than normal. This supplied them not only with food for family consumption, but also with seed for the next planting season as well as surplus rice that they could sell to boost their household income.

Every farmer supported with seeds for one hectare was able to produce two tonnes—enough rice to feed a family of five for a year, generate vital income and save seed for future planting.

In order to further build resilience during the recovery period, FAO provided water and-pest-resistant storage containers to protect farmers' seeds, along with drying nets and post-harvest equipment. In addition, farmers were trained in how to reduce post-harvest losses.

Through the programme, FAO assisted more than 177 000 rice and corn farming households (some 885 000 people). In turn, the high-yielding seeds enabled them to produce more than 72 000 metric tonnes of rice and 6 800 metric tonnes of corn grits—which could feed more than 650 000 people for one year.

BY THE NUMBERS

Total number of beneficiaries
885 405

Total number of households
177 081

Total number of people trained
3 663

Metric tonnes of milled rice produced
72 000+

Metric tonnes of corn grits produced
6 800+

Estimated number of people (approximately 130 000 households) could be fed with rice produced
650 000

49 418	Rice bags
7 975	Corn bags
100 180	Fertilizer bags
20 594	Hand-tool sets
123 265	Other planting materials
9 800	Seed storage containers
16 600	Household farming kits
1 218	Irrigation pumps
79	Machinery
250	Livestock & poultry

Assistance by Region:

IVB 30 264
VII 9 545
VI 40 843
VIII 96 429

Partners:

- Department of Agrarian Reform
- Department of Agriculture
- Municipal Local Government Units
- Provincial Local Government Units

Donors:

- Belgium
- United Nations Central Emergency Response Fund
- Ireland
- Italy
- Norway
- Switzerland
- United Kingdom

EMERGENCY RICE INTERVENTION

"When the typhoon hit, our rice was almost ready and we were expecting a good harvest."

SUSAN GASPAY
Burauen, Leyte

"When the typhoon hit, our rice was almost ready and we were expecting a good harvest," Susan Gaspay says looking out over the rice field she farms on.

Striking between two farming seasons, the typhoon severely damaged ready-to-harvest, harvested and newly planted rice, in addition to seed stocks and tools.

"We lost everything!" she continues, "our ready-to-harvest rice, our stored seeds, and our rented tractor. Not to mention our house," she says gesturing behind her at what remains of her house.

Susan's family is one of the almost 100 000 rice farming households supported by FAO following the devastation that Typhoon Haiyan left in its wake on 8 November 2013.

Susan lives with her husband Erwin in Barangay Paitan near Burauen, some 30 minutes south of Tacloban. They have seven children ages four to 18 who are all in school. Before the typhoon they were small-scale tenant farmers working on one hectare of rented land.

"With this help we were able to plant before it was too late, enjoy a good harvest, and I hope to pay back our debts," she says.

Farmers in affected regions often rent the land they farm on and borrow money to pay for inputs, making their situation even more desperate.

LOCATION MAP

"Without these seeds I don't know what we would have done," Susan recalls. "We could only just afford the school fees for our children, so that would have been the first thing to cut. We would have had to borrow even more."

Ensuring farmers were able to plant in time for the December/January planting season was FAO's primary concern in the month following the typhoon, to ensure that farmers could get back on track in terms of restoring their livelihoods. If they missed the planting season they would not have been able to harvest until the next harvest season in October 2014, and would have had to rely on food aid for almost a year.

FAO in collaboration with the Department of Agriculture was the first organization on the ground to deliver rice seeds. By March/April 2014, the 1 800 tonnes of rice seed FAO distributed in regions VI and VIII yielded enough rice to feed around 650 000 people for a whole year, at an estimated market value of USD 84 million.

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HOUSEHOLD FARMING KITS

"The assistance really helped us get through the crisis, so that we could get back on our feet. Now I can grow and sell crops again."

EDGARDE MONTOYA
Palo, Leyte

LOCATION MAP

Edgarde Montoya has been farming rice in Palo, Leyte for more than 20 years. His coastal community was hit first by the Typhoon, and then by the resulting tidal surge. "When Yolanda came, all the crops were washed out, even the houses were destroyed," he recalls.

After the emergency phase and to help build the resilience of small-scale farmers who were severely affected by Haiyan, some 46 000 households received recovery support in the form of household farming kits, water- and pest-resistant storage containers and training that will help farmers to protect their seeds and reduce post-harvest losses.

A post-Haiyan emergency report conducted by FAO revealed that the majority of typhoon-affected farmers were storing part of their rice seeds in rice sacks, which were not protected from extreme weather conditions. Appropriate storage facilities can therefore play a crucial role in reducing seed and grain losses when natural disasters like floods or typhoons occur. The storage containers they received allow them to store up to 80 kgs of seeds, which equates to being able plant two hectares of rice.

Edgarde has since built back his livelihood through receiving training on better farming practices, along with a household farming kit and farm inputs that includes seeds, fertilizer, drying net, watering can a seed storage container.

The inputs and trainings that have been provided to small-scale farmers like Edgarde means they can now implement these practices they've learnt and be able to ensure safer grain and seed storage to reduce losses, thereby increasing their resilience to natural disasters and their ability to recover.

"The assistance really helped us get through the crisis, so that we could get back on our feet. Now I can grow and sell crops again. The money that I earn from selling my crops, I can use to buy my family's daily needs," he says.

Edgarde is well aware that more typhoons will surely come but his outlook is optimistic: "I think I am now better prepared, because I am now more experienced and more trained. I have readily available seedlings and I can use the grain storage container if ever another typhoon like Yolanda comes again. But I pray that it won't happen."

Aerial view of a Sloping Agricultural Land Technology (SALT) site near Palompon, Leyte. FAO established SALT sites in Haiyan-affected areas to allow coconut-based farming communities to plant short-term and annual crops to provide alternative livelihood sources and utilize idle land under coconut plantations.

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Coconut-based
FARMING SYSTEM

Coconut is one of the most important crops in the Philippines. The country is the second largest coconut producer in the world, but after Typhoon Haiyan an estimated 44 million trees were damaged or destroyed, affecting around 1 million coconut farmers.

The livelihoods of traders, wage earners, processors and other stakeholders along the various coconut value chains were also severely affected.

The impact on the coconut sector was subsequently devastating as coconut seedlings take an average of six to eight years to become productive again. Furthermore, coconut intercrops such as banana, root crops and abaca, as well as livestock also sustained severe damage and further affected the livelihood of farming households and communities.

In response, FAO implemented six projects to support coconut-based farming systems (CBFS) and to restore the food security and livelihoods of 35 500 small-scale coconut farming households through providing diversified sources of income and placing coconut communities on a path of resilient and inclusive economic growth.

Recognizing the importance of healthy mangrove ecosystems in improving the resilience of coastal communities and its potential to provide alternative sources of livelihood to coconut-farmers, FAO's CBFS approach also integrated mangrove forest rehabilitation.

CBFS Activities

FAO worked closely with partners and communities in the following areas:

- intensification and diversification of coconut areas through intercropping and integration of livestock;
- provision of household farming kits including seeds, seed storage containers, small farm tools and equipment.
- provision of small common service equipment to farmer organizations and local government units to support farm mechanization;
- establishment of home and community seed production and plant nurseries;
- establishment of contour farming (or sloping agricultural land technology) and integration of trees in sloping and hilly areas;
- establishment of sustainable livelihoods through community-based processing and value-adding enterprises;
- capacity building and technology transfer to build resilience to future disasters through climate-smart farmer field schools;
- rehabilitation of mangroves through establishing community-managed forestry systems;
- reduction of post-harvest losses through the provision of post-harvest facilities to households and farmers'/ women's organizations; and
- integration of pest management strategies and awareness campaigns

From the identification of the specific needs of coconut farming communities to the implementation of the projects, FAO worked closely with its partners in the Department of Agriculture, the Philippine Coconut Authority, the Department of Agrarian Reform, and the Department of Environment and Natural Resources. FAO also worked with the National Commission for Indigenous Peoples to ensure that the support provided built on existing sustainable farming practices and community-managed resource strategies.

By providing alternative coconut-based farming livelihoods in the targeted communities, the programme helped to restore agricultural production, increased access to alternative certified seeds and quality planting materials, improved crop varieties and animal breeds, and expanded their awareness of potential hazards in their communities so they are more equipped to cut their losses and reduce risks to future disasters.

BY THE NUMBERS

Total number of beneficiaries
177 500

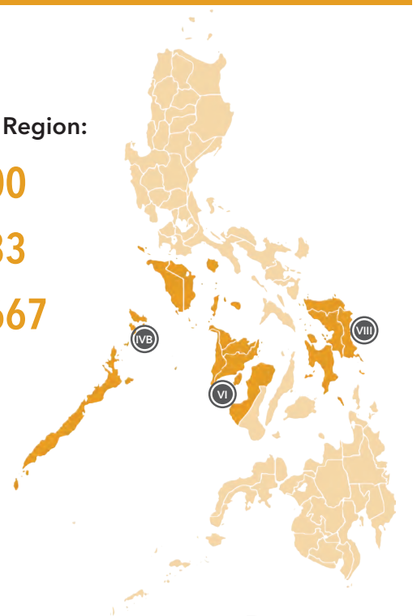
Total number of households
35 500

Total number of people trained
23 118

462	Grains (rice & corn) tonnes
463 530	Fruit & vegetable seeds (pieces)
3 398	Fertilizer tonnes
3 650	Hand tool sets
461 167	Other planting materials
36 300	Seed storage containers
34 000	Household farming kits (pieces)
256	Machinery sets
7 890	Livestock & poultry
43 735	Mangrove wildlings (pieces)

Assistance by Region:

- IVB 3 000
- VI 4 833
- VIII 27 667



Partners:

- Department of Agrarian Reform
- Department of Agriculture
- Department of Environment and Natural Resources
- Municipal Local Government Units
- National Commission of Indigenous Peoples
- Philippine Coconut Authority
- Provincial Local Government Units

Donors:

- Canada
- Finland
- Ireland
- Japan
- New Zealand
- United Kingdom

SLOPING AGRICULTURAL LAND TECHNOLOGY (SALT)

"It brought a major change to the way I was farming. I'm now planting pineapples. I have 100 pineapples already."

MARCELINA CALVEZ
Palompon, Leyte

LOCATION MAP

The road to recovery has not been easy for fifty-two-year-old Marcelina Calvez and her husband who have been farming in Palompon, Leyte for more than 30 years. They have seven children and like many coconut farmers, they do not own their land. Even prior to Typhoon Haiyan, the half hectare of coconuts they were farming was not enough to meet their family's needs.

"After Yolanda, we lost our livelihood but we still had debts to pay," said Marcelina. "The hardest part was trying to earn money to feed my family."

Restoring livelihoods and building the resilience of coconut farmers was a paramount consideration in the aftermath of the typhoon and this meant providing farmers with a stable source of alternative livelihood that can be sustained even with limited land resources and capital.

In response to this challenge FAO, in collaboration with the Department of Agriculture, the Philippine Coconut Authority and Local Government Units, established 129 Sloping Agricultural Land Technology (SALT) sites to enable coconut-based farming communities to plant vegetables and other cash crops to complement their main crops like coconut and corn. By planting short-term, medium-term and permanent crops, farmers are able to gain alternative livelihood sources and make use of idle land under coconut plantations.

The sites were built in the Haiyan-affected areas of Region VI and VIII, and trainings were conducted on the establishment and maintenance of the sites with community-based organizations and farmer cooperatives.

"It's hard work but it's much better than our traditional way of farming, says Marcelina, who is a member of the Liberty Farmers Multipurpose Cooperative. "We can now achieve more productivity in these hilly areas we didn't think we could farm."

SALT (also known as contour farming) was adopted in these areas because it is an ecologically-sound method of upland and contour farming that is specifically developed for smallholder farmers with few tools, little capital and limited farming grounds. To further emphasize the importance of adopting climate-smart farming technologies, one SALT demonstration farm per municipality was established and used as a venue for a climate-smart farmer field school.

Marcelina has applied her training and developed her own SALT site on a portion of land near her house. "It brought a major change to the way I was farming. I'm now planting pineapples. I have 100 pineapples already," she says proudly. "And I'm using the method I learnt from the training to plant madre de cacao as hedgerows because these plants are good for maintaining the fertility of the soil."

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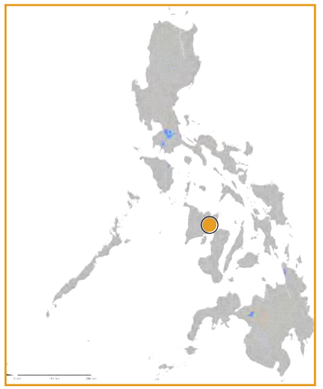
COMMUNITY NURSERY

"This nursery is really going to make a huge difference in our community."

LAURENCE PALMES
Barotac Viejo, Iloilo

LOCATION MAP



"Before Yolanda, I was farming around 50 coconut trees but many died due to Yolanda. We were not even able to count the trees that died," says Laurence Palmes, a coconut farmer from Barotac Viejo and a member of the Santiago Small Coconut Farmers Association.

"After the typhoon, people here were really impoverished. The situation was already difficult for many farmers, but it got worse after Yolanda because our livelihoods were destroyed."

Laurence was producing copra from his coconuts but when these were all damaged, he had to temporarily shift to fishing as he had no money to buy seeds to start farming again.

Until recently, farmers had to rely on minimal provisions of new seedlings and the extent of the damage caused by Typhoon Haiyan made it even more difficult for them to source seedlings and resume their farming.

With FAO assistance in collaboration with the Philippine Coconut Authority and the local municipal government, farmers in Barotac Viejo established a community nursery that will enable them to rehabilitate their typhoon-damaged and disease-affected farms more efficiently.

Through the programme, FAO established 45 community nurseries in the affected areas in Western and Eastern Visayas. Participating farmers' associations and community-based organizations were also trained in nursery establishment, seed production management and operations, and mass propagation techniques.

"The training was really helpful," says Laurence as he pots some mung bean seeds. "We learned how to preserve seeds and how to do seed banking. We can also test what vegetable seeds work best for intercrops and which will command a higher price at the market."

With the support, farmer groups are now able to come up with a management scheme for their community-based nurseries and sustain their support to other farmers as they transfer their learning on crop propagation techniques.

"This nursery is really going to make a huge difference in our community," Laurence points out. "We usually buy seeds from the agricultural supply office here, but now we have the means to do it ourselves. This brings immense pride to our community."

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CLIMATE-SMART FARMER FIELD SCHOOL

"We learnt how to farm on hilly land using contour lines so that the fertility of the soil is preserved and the health of plants is ensured."

MANUEL OROSA SR
Magsaysay, Occidental Mindoro

LOCATION MAP

The southern tip of the island of Mindoro was hit particularly hard by Typhoon Haiyan with high winds and rain damaging crops and forests in the highland areas. Many living in this remote, mountainous region belong to indigenous tribes that were already highly vulnerable before the typhoon, with little resilience in terms of food security and agricultural productivity.

"We were just about to harvest our rice but because of the typhoon, we were not able to harvest anything. Our banana trees and coconut trees were also felled down," recalls 67-year-old Manuel Orosa Sr, a farmer and tribe leader of the Hanunuo Mangyan indigenous group.

The unique needs of the indigenous communities required assistance which included immediate recovery as well as longer-term capacity and resilience-building activities responsive to the local context.

Before Typhoon Haiyan, many indigenous tribes were involved in kaingin farming (slash-and-burn farming), a traditional method of farming that has led to deforestation in the mountainous regions of southern Mindoro. "We hadn't thought about our way of farming affecting the climate until we attended the farmer field school," said Manuel.

Through the programme, FAO established 68 Climate-Smart Farmer Field Schools and conducted several capacity building and training sessions that introduced the concept of integrating climate resilience and crop diversification, along with providing new methods for agro-ecology, weather monitoring, and enhanced practices on soil and pest management. It also retooled farmers in alley cropping and vegetable production.

"We learnt how to farm on hilly land using contour lines so that the fertility of the soil is preserved and the health of plants is ensured," Manuel said enthusiastically. "You can plant a wide variety of crops on a contour farm like vegetables, corn and rice."

The training culminated in the preparation and presentation of farm sustainability plans by the participants, which has enabled farmers like Manuel to feel more confident about how they can continue to maximize the use of their land.

"This training was very important to me because we cannot be using kaingin farming all the time. The training has taught me how I can use the land continuously and this is a big help not only to me and my family, but also to our tribe and community."

VALUE-ADDITION ACTIVITIES

"We know they're good because they're made with love."

MARIFE JALBAY
Salcedo, Eastern Samar

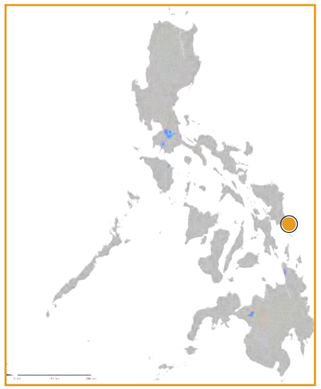
Marife Jalbay has been farming in Salcedo, Eastern Samar for 20 years. The region was the first to be hit by the full force of the super typhoon which destroyed Marife's coconut and nipa trees, as well as root and vegetable crops.

"We had no livelihood and no source of income. We had no money to sustain our food and daily subsistence needs, as well as the needs of our children who are going to school," she said.

After Haiyan, Marife and the farmers in her community formed the Abejao Farmers Association and initially took part in FAO's climate-smart farmer field school to re-start their livelihood and also improve their farming practices. Following an assessment of their association and the type of crops they were growing, the group was then selected to undertake value-addition trainings to encourage them to expand their farm business, along with training on entrepreneurship and asset building through savings.

The training aimed to support community-based organizations like the Abejao farmers in improving their production systems by introducing more innovative and cost-effective technologies. Through the programme, FAO, in collaboration with the Department of Science and Technology and Department of Trade and Industry, trained 3 527 beneficiaries (of whom 2 232 were women) on value-adding activities and entrepreneurship. The training modules covered the shift from manual processing to semi-mechanized production, along with food safety, hygiene, product packaging, labelling and marketing.

LOCATION MAP



Because cassava is one of the major roots crops that ensure steady supply throughout the year, the training for the Abejao farmers focused on cassava processing. According to Marife, who is now the president of the Majority Women Farmers Association, making cassava chips allows them to get higher prices and net returns compared to when they were selling their raw cassava in nearby markets. On average, one barrel (14 kgs) will sell for Php 120 (USD 2.50) but through what they have learnt in the training, the Abejao Farmers Association are turning that equivalent weight of cassava into 650 packets of cassava chips, which now earns them 3 250 pesos (USD 69.60).

"Right now, we are the only ones making cassava chips here in Salcedo," Marife says as she proudly holds their product. "We know they're good because they're made with love. We just hope that we can further improve the quality and packaging, and one day sell our products in other barangays and even in supermarkets."

For Rizandra Amang, the sole provider for her family of six, the assistance she has received from FAO has been crucial to help her regain an income to support her family. Women often play an important role in the post-harvest salting, drying and marketing of fish and are an integral part of the fisheries sector.

Fisheries
AND COASTAL COMMUNITIES

When Typhoon Haiyan struck the Philippines, 73 percent of coastal communities were severely affected and approximately two-thirds of small-scale fishers lost their productive assets—including boats, fishing gear and post-harvest equipment. Substantial damage was also incurred by the aquaculture and mariculture industry, which contributes to more than half of the total national fisheries production.

The loss of livelihoods resulting from the typhoon had far-reaching effects on the overall quality of life of Filipino fishers, particularly for women who play an important role in the post-harvest processing of fish.

Improving sustainable practices

The rehabilitation process of the fisheries sector presented the opportunity to introduce improved practices and help small-scale traders and fish processors add more value to their production.

Paving the way for more sustainable development, FAO worked closely with the Bureau of Fisheries and Aquatic Resources and local authorities to restore the fisheries-related livelihoods of nearly 18 000 fisher households in the regions of Eastern Visayas, Western Visayas and northern Palawan.

Through FAO's interventions, boat builders were trained on the construction and maintenance of a newly developed hybrid wood-and-fibreglass boat, which provided a more environmentally sustainable and cost-effective option for fishers. This was complemented by the distribution of various inputs, such as boat engines and fishing gear.

The provision of post-harvest kits and related training activities enabled fish farmers, particularly women, to consolidate production at the household level and to engage with larger markets. In addition, the project encouraged women's organizations to explore other value-adding practices using more innovative drying technologies and to reduce fish wastage, therefore increasing their household income.

Oyster and mussel producers, along with seaweed farmers, have not only been able to restore and enhance their production capacity using the distributed inputs, but were also provided with opportunities to adopt more sustainable and environmentally-sound methods of farming.

Addressing coastal mangrove forests was a key cross-cutting component of the programme and FAO worked with local communities and organizations to promote the rehabilitation of severely damaged mangrove forests. In addition, FAO worked to strengthen the capacity of local governments to manage and monitor fish habitats and fishery law enforcement in 36 marine-protected areas, leading to an increase in the production of fish and other marine resources.

Because the Philippines is at high risk of recurring natural disasters, FAO provided safety at sea training and technical assistance to coastal communities along with developing fisheries management improvement plans to contribute to more sustainable fishing practices.

BY THE NUMBERS

Total number of beneficiaries
88 745

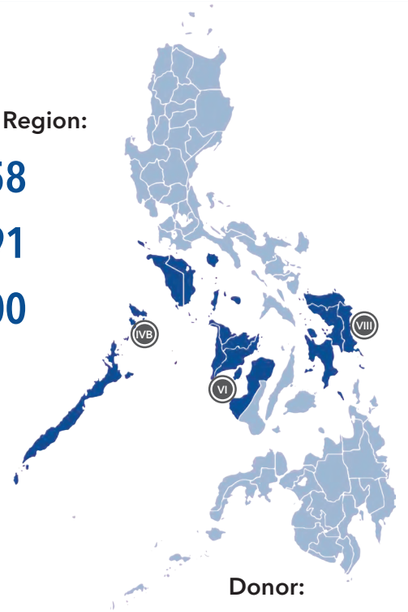
Total number of households
17 749

Total number of people trained
11 603

1 700	Boat engines
6 000	Fishing gear
7 200	Post-harvest kits
36	MPA kits
2 900	Seaweed culture kits
1 500	Bivalve culture kits
1 000	Milkfish culture kits
500	Mudcrab culture kits
1 000	Safety at sea education material

Assistance by Region:

- IVB: 4 358
- VI: 6 091
- VIII: 7 300



Partners:

- Bureau of Fisheries and Aquatic Resources
- Department of Agriculture
- Department of Social Welfare and Development
- International Labour Organization
- Local Government Units
- Philippine Coast Guard
- Red Cross
- Southeast Asian Fisheries Development Center
- United States Agency for International Development

Donor:

- European Commission's Humanitarian Aid and Civil Protection (ECHO)
- Germany
- United Kingdom

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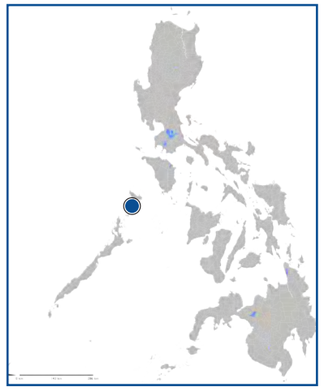
HYBRID BOAT

"A banca like this can be handed down from generation to generation, given that it lasts three times as long as the traditional banca."

DOMINGO OLEDIANA
Culion, Palawan

LOCATION MAP



"In my 39 years of life, it's the first time I encountered that kind of typhoon," recalled Domingo Olediana, a carpenter from the island of Culion.

"The night of Yolanda, we told everyone leave their house and go to the school or to the church because that is the designated evacuation centre of our barangay. Then in the evening, Yolanda came. It totally damaged our place and all our boats."

Typhoon Haiyan damaged or destroyed some 30 000 fishing boats and affected coastal communities in Regions IV-B, VI and VIII. Massive requirements for hard timber to replace or repair damaged fishing boats were therefore a major concern.

FAO, together with the Bureau of Fisheries and Aquatic Resources (BFAR), explored various boat design possibilities that could be adopted to create a boat that is both environmentally sustainable and locally feasible. This resulted in the development of a hybrid boat that retains most of the components of traditional wooden boats but replaces the keel with fibreglass, which was traditionally made of hardwood timber.

To facilitate community acceptance, FAO trained boat builders and carpenters in the three affected regions on the construction and maintenance of the fibreglass keel. The trainings were conducted in BFAR's regional training centres and were facilitated by local boatbuilding consultants commissioned by FAO. The training package included boatbuilding manuals with detailed illustrations on the construction of the hybrid boat and focus group sessions on fibreglass preparation and safety requirements.

Through the programme, FAO has trained 900 boat builders and carpenters, who can now teach other carpenters and boat builders when they return to their communities. By training trainers, knowledge on construction and maintenance is expected to be passed on to 3 000 boat builders and carpenters.

For carpenters like Domingo Olediana, the training on how to build the hybrid boat will have long-term benefits for his community. "I have something to teach my brothers and neighbours so that they will also know how to make the hybrid banca (boat), without using hard wood," he said. "A banca like this can be handed down from generation to generation, given that it lasts three times as long as the traditional banca."

MARINE PROTECTED AREAS

"I monitor and watch over the fish sanctuary every day and help enforce the law. "

ANTONIO SUMOOC
Marabut, Samar

The destruction of coastal ecosystems compounded by overfishing was already threatening the livelihoods of small fishers in the Philippines. With Typhoon Haiyan causing significant damage to coastal and marine areas, it was not only essential to restore these areas, but also improve and promote the effective management of marine protected areas.

Antonio Sumooc is a fisherman who lives in Marabut, Samar. He is also the president of the Kalyanap Reef Marine Sanctuary, a 39-hectare marine protected area located in his barangay. The area was badly affected by the typhoon, which destroyed the coral and marine habitats.

Every morning he goes out to sea at 4 a.m. to fish and returns around 6 a.m. to start his additional job of monitoring the nearby marine protected area. "I'm proud of this job," he says. "I monitor and watch over the fish sanctuary every day and help enforce the law. This gives me an opportunity to help the people my community."

The warning signs on the water's edge outline the penalties for fishing in this area. The first penalty for illegal fishing might seem small at Php 500 (USD 10.60), but this is equivalent to two days fishing (depending on the catch). According to Antonio, after the third offence, the boat is confiscated. "We have clear rules here in this fish sanctuary. We will impose a fine on people caught fishing in this area," he cautions.

Through the programme, FAO supported 36 marine protected areas in Regions IV-B, VI and VIII by providing materials and training to community-based organizations and local government units on fish habitat assessment and monitoring, along with the preparation of their Fisheries Law Enforcement Operations Plan, which outlines procedures on how their inputs will be used to monitor marine protected sites.

Support to marine protected areas was part of a joint effort between FAO and the Government to promote sustainable fisheries management practices and to encourage and build more resilient coastal communities. The impact of the intervention has resulted in the strengthening of local capacity to manage these areas, leading to an increase in the supply of fish and other marine resources in the sea.

"We now see sharks and sea turtles coming back to this area," Antonio says enthusiastically. "We're getting tourists here as well which gives the community additional income. Some come here for scuba diving, swimming and some are studying the corals here too."

LOCATION MAP

FISHERIES POST-HARVEST

"Right now, we're optimistic that we can have better incomes."

LOIDA LAGAN
Barangonan, Palawan

Loida Lagan and her family feared the worst when they heard that Typhoon Haiyan was heading in the direction of their island, Barangonan, Palawan.

"We were so afraid when Yolanda struck. The waves were big. When we heard about what was happening in Tacloban, we went to the evacuation centre immediately. We were so scared of the high tide. We were thinking that help would not reach us immediately, because we were literally isolated from the mainland," she recalls.

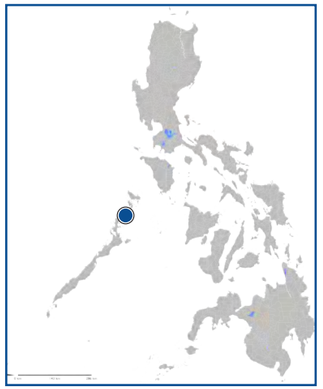
Loida's family is one of thousands of fisher households whose shelter and livelihoods were destroyed by the typhoon. As she predicted, making both ends meet was even more difficult after Haiyan. "It was difficult for us to move on. The storm destroyed our drying facilities. Our men couldn't fish because their boats were damaged; and if they could, there was very meagre catch. I could not dry squid or fish anymore because there was nothing left to dry. We had little security because we had no income."

Prior to Typhoon Haiyan, women processors like Loida bartered their dried fish products for rice from farmers during the harvest season. This practice was common in areas where farm to market roads were inadequate. FAO interventions after the typhoon encouraged women organizations to explore other value-adding practices using more innovative drying technologies, reduce fish wastage and therefore improve the income of their families.

Through FAO's programme, 7 200 households were engaged in post-harvest and processing activities. Post-harvest kits and related training were provided to enable fish farmers to consolidate production at household level and also engage with larger markets. The programme was able to target areas that had not previously been reached and because of this, fishers living in remote areas received access to culturally-acceptable, simple and practical ways of improving their livelihoods.

With the support, Loida's livelihood source is now back on track. "We learned how to dry fish and squid more efficiently by minimizing spoilage and proper cleaning. We also learned how much salt was necessary to avoid spoilage and how to make new products like fish tocino," she added. "Right now, we're optimistic that we can have better incomes. We've learned not to be too dependent on our spouses; that women can help; and we've become more confident in doing that."

LOCATION MAP

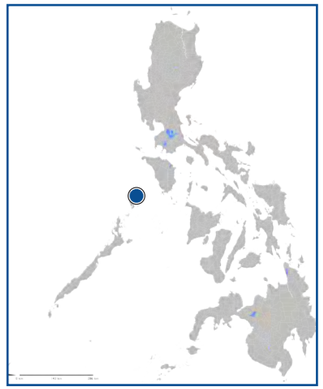


SEAWEED FARMING

"Without this support we wouldn't have a source of livelihood."

JESSICA PAGUIA
Tagbanua, Coron, Palawan

LOCATION MAP



For 31-year-old Jessica Paguia, from the Tagbanua indigenous group on the island of Coron, farming seaweed is a family affair and has been the main source of income for their small coastal community for the past 20 years.

"When Yolanda came, our house and all our farming materials were washed out by the typhoon," said Jessica, looking out at the water that houses their livelihood.

"We didn't know where to start, because we lost everything and have relied on seaweed farming for so many years. Everyone was affected–not only our family."

When Typhoon Haiyan (Yolanda) struck, it severely damaged and destroyed many seaweed facilities and production, crippling the income of Filipino coastal farmers who relied on this as their main source of livelihood.

The Philippines is one of the world's largest producers of seaweed and initial assessments after the typhoon showed that $12.2 million was lost in aquaculture and seaweed production alone.

As part of its recovery and rehabilitation response for the fisheries sector, FAO worked together with the Bureau of Fisheries and Aquatic Resources to provide livelihood and rehabilitation assistance to 2 900 seaweed farming beneficiaries across Palawan (Region VI-B) and Panay Island (Region VI).

The assistance provided by FAO included seaweed farming packages consisting of nylon lines, floats and planting materials, along with home-based seaweed drying facilities, and establishing seaweed nurseries to enable diversification and culturing of seaweed species.

While the damage to seaweed farming was extensive, the recovery and rehabilitation phase also presented an opportunity to introduce better farming practices. Trainings were provided on how to select more suitable farming sites, the preparation of seedlings, seaweed farm maintenance and how to gain access to markets.

"We learnt things like proper cutting, transferring to nursery grounds, and the period it takes for seaweed to reproduce," Jessica says. "Prior to this, we were just harvesting the seaweed and drying them, which caused the seaweed to shrink. We didn't know that we had to transfer them before drying, so the training helped us to cut our losses."

"Without this support we wouldn't have a source of livelihood," she says. "We can now expand our seaweed farms through the variety of techniques that we've learnt and adapt our strategies according to climate conditions."

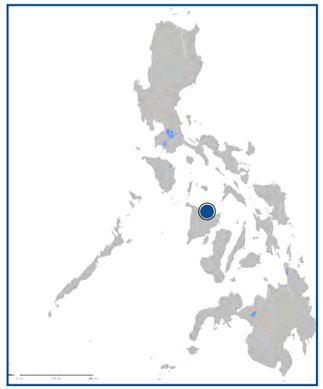
Jessica doesn't know what the future holds, but she is sure about one thing: "We are now able to meet our basic needs every day and the materials are also sufficient capital for us to be able to recover from what we lost."

MANGROVE REHABILITATION

"We learned how to plant the mangroves properly so the seedlings will not die and they can grow continuously."

JINKY TUGON
Ivisan, Capiz

LOCATION MAP



Mangroves serve as a natural buffer against wind, waves and storm surges in coastal communities but over the years, the areas covered by mangrove forests have been steadily declining. After Typhoon Haiyan, it was estimated that approximately 18 000 hectares of mangrove forest were damaged.

"These mangroves are our first line of defense from strong storms. They help protect us so that we won't be affected as much," says Jinky Tugon who lives in a coastal community in Ivisan Municipality in the Province of Capiz. She is also a member of Barangay Agustin Navarra Environment Conservation Association (BANECA), a community-based organization that is rehabilitating a 10-hectare mangrove site.

The health of mangrove ecosystems is increasingly being recognized for its environmental and economic importance. Mangroves contribute to erosion control, sediment trapping, water purification and flood regulation, and also act as an important wildlife habitat and nurseries for certain fish populations.

"This mangroves area is important to us and our community benefits a lot from this natural habitat," Jinky says. "It's also our source of food and livelihood. If we don't have food to eat, we just come here and get shells, fish and crab. We can get a lot of food from here."

As communities become aware of the importance of mangroves in their livelihoods as well as in increasing their resilience against future typhoons and storm surges, they become primary stakeholders and stewards of protecting mangrove areas.

FAO worked closely with six communities and local organizations to rehabilitate 25 hectares of mangrove sites and coastal ecosystems, as a cross-cutting component of its fisheries and coconut-based farming systems interventions.

Appropriate propagules, seeds, seedlings and planting materials were distributed and approaches for the successful recovery, protection and natural regeneration of coastal/mangrove forests were promoted. Trainings were also provided through hands-on workshops that aimed to equip participants with the proper knowledge and skills on the importance of the coastal mangroves ecosystems to communities.

"The support was a very big help to us", Jinky says as she transplants a mangrove seedling into the ground. "We learned how to plant the mangroves properly so the seedlings will not die and can grow continuously. We finally learned how to do these things correctly and efficiently."

With assistance from FAO, organizations like BANECA have now prepared a coastal-mangrove rehabilitation and management plan, along with the issuance of a long-term tenure to ensure the ongoing sustainability of the area.

Accountability to Affected Populations

FAO was committed to a policy of Accountability to Affected Populations (AAP) within its emergency response and rehabilitation work.

AAP principles were integrated into the design, implementation and evaluation of all FAO projects to ensure the highest levels of programme accountability in terms of participation, governance, transparency and redress to complaints by programme beneficiaries.

From the start of implementation, all staff members including partners from the Government and Local Government Units were oriented on AAP as FAO's commitment to local communities.

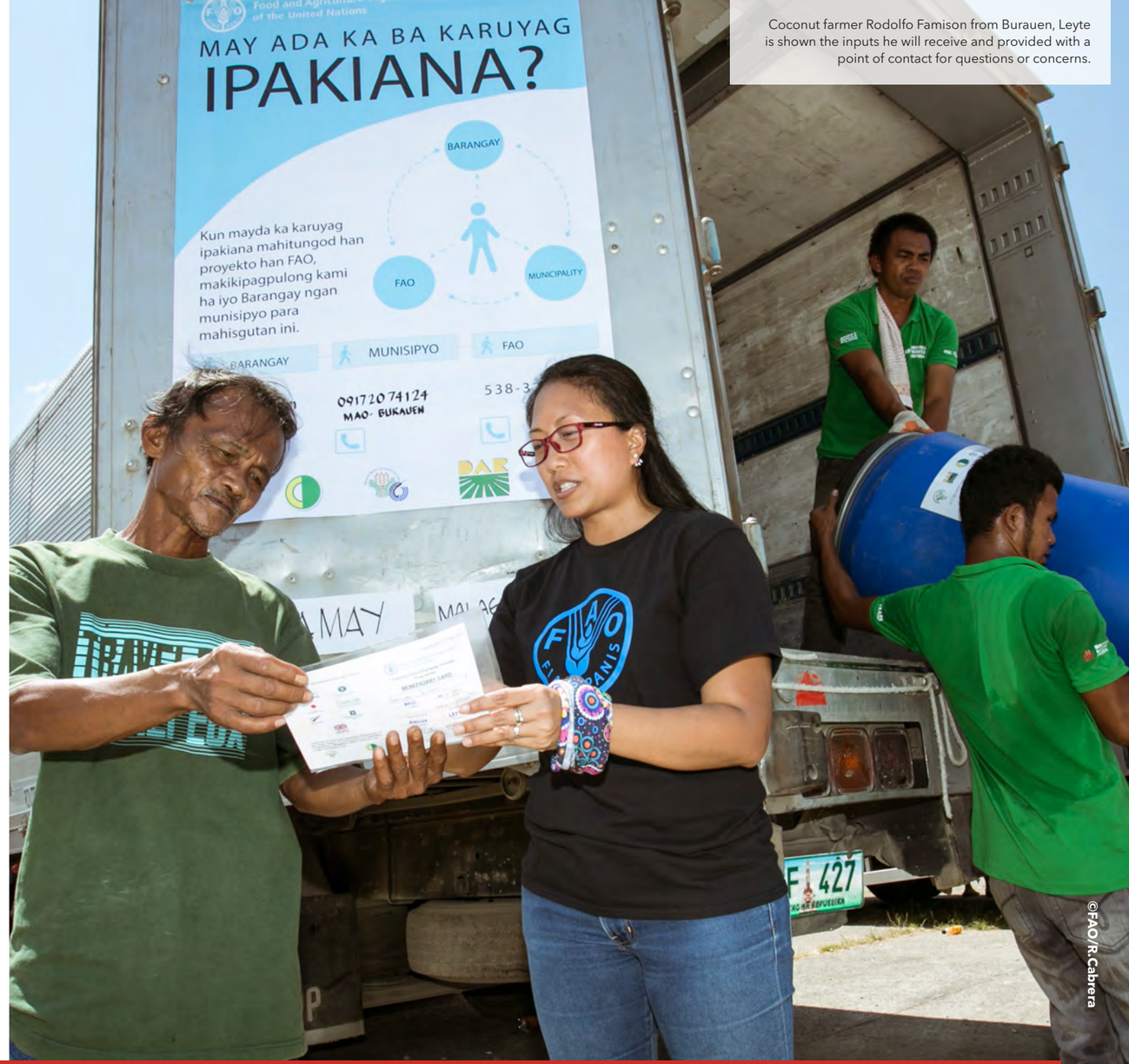
The number and type of inputs provided to beneficiaries were configured based on their farming needs, vulnerability and suitability to the area. This was done through conducting Agricultural Hazard and Vulnerability Mapping exercises in consultation with municipal agriculture officers, and presentation/validation with partners at project coordination committee meetings.

To further engage in two-way communication with affected communities during the recovery and rehabilitation phase, a mobile phone feedback system was set up using FrontlineSMS, a web-based platform that aggregates feedback gathered from communities into data for ease of sharing, reporting and tracking of responses. The feedback system encouraged farmers and stakeholders to SMS their concerns or questions about inputs received and the process.

Specific AAP activities included:	
Area-appropriate inputs	• Seeds were procured from accredited suppliers locally or across the country • DA advice was sought on appropriate rice varieties
Beneficiary-sensitive distribution	• Needs assessment and validation of beneficiary lists • Preferential treatment for women and elderly in some areas • Filled gaps from logistics constraints of local agriculture partners
Communicating guidelines and input information	• FAO developed key messages to inform and support beneficiaries • Technical information is provided by local agriculture and FAO staff to farmer beneficiaries
Inviting feedback	• FAO field staff were available for group or individual discussions with beneficiaries at distribution points • Mobile numbers of local and provincial Department of Agriculture staff were provided • Individual and random checks by FAO • Post-distribution assessment conducted by FAO and DA
Monitoring input use and performance	• Post-distribution assessment conducted by FAO and DA • Visit to farms and farmer households

Throughout the programme implementation, flyers and banners in the local dialect were also produced and distributed to ensure that there was continuing emphasis on beneficiary engagement in the decision-making process as well as respect for their cultural sensitivities.

At the conclusion of each project, a performance assessment was conducted by gathering feedback from selected implementation partners at the regional, provincial and municipal levels, including community-based organization representatives and project beneficiaries. The process included developing sustainability plans, which were formulated by the beneficiaries together with their corresponding local government units, to identify opportunities to link to existing or upcoming government programmes.



Coconut farmer Rodolfo Famison from Burauen, Leyte is shown the inputs he will receive and provided with a point of contact for questions or concerns.

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