STORIES FROM THE FIELD — INNOVATIVE AGRICULTURE

Unlocking opportunities for rural entrepreuners and farmers in sub-Mekong region

IFAD

Investing in rural people

FOREWORD

This publication tells 15 stories of rural people whose lives have been changed by the work of the International Fund for Agricultural Development (IFAD) in Cambodia, the Lao People's Democratic Republic, Myanmar, the Philippines and Viet Nam. These stories provide examples of how our work is constantly evolving, piloting new ideas, solving problems in innovative ways, building on lessons learned and scaling up initiatives that work well, into larger projects. The stories also emphasize the importance of a wide-range of partnerships on the ground and the role of dedicated project staff in bringing about project success. As a results-based and learning organization, IFAD believes strongly in knowledge sharing. By collecting and sharing these stories, we hope to disseminate our experiences to a wide audience and support readers to learn more about the issues that poor rural people face.

I invite you to listen to the voices of people who live in remote, rural areas in Southeast Asia — they are their own advocates for innovation and effective change. They may be from ethnic minority groups; they may be smallholder farmers or participants in farmer-to-farmer organizations; they may have had access to a loan for the first time; or they may have benefited from a public-private-partnership arrangement. They may be from one of five countries, but they all have something in common: strength, and the desire to change their circumstances.

Agriculture plays a predominant role in the economies of these countries, as the majority of the workforce is employed in the agricultural sector. With a large share of each country's population relying on agriculture for their livelihoods, developing the agricultural sector is the solution for rural development and poverty reduction in rural areas. It is the key to strengthening food security and improved household nutrition. Governments are focusing on agriculture to achieve economic transformation and job creation in rural areas.

IFAD-supported rural and agricultural development programmes and projects in these countries have reached more than four million households over 25 years. Currently, there are 17 IFAD-supported programmes and projects in these countries, with a total investment of US$988.2 million. IFAD-supported projects have applied a variety of techniques. These include a commodity-based value chain approach, improved technology, increased credit and financial services, making available extension services and training, adaptation of farming practices to a changing climate, special attention to improving food and nutrition security, and overall improvement of livelihoods and quality of life for poor rural people in the target areas.

Looking back and moving forward, and on behalf of the IFAD team working in Cambodia, the Lao People's Democratic Republic, Myanmar, the Philippines, and Viet Nam, I can emphatically say that we are proud to be in partnership with the people featured in this book and thousands of others in rural communities in these countries. We thank them for having confidence in us, as we believe in them, and we hope readers of this booklet are witness to the trust that sustains our partnerships with smallholder farmers and families in rural communities.

Personally, I have been moved by the significant improvements in the lives of rural people I have witnessed during my several field visits in the region, and have been inspired by the positive changes I have observed with my own eyes over the last two years. I look forward to the day when we are able to completely eliminate poverty and hunger in rural areas in the region.

Thomas Rath

Country Director for Vietnam, Thailand and Lao PDR and Sub-regional Director of the Mekong Hub Asia and the Pacific Division
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CARDAMOM CULTIVATION CHANGES THE LIVES OF IMPOVERISHED FARMERS

Farmers have changed their lives by switching to cardamom. They now have more income and their children have a chance to go to school.

“Now I have bought home appliances such as a television and refrigerator from selling the cardamom fruit. Moreover, I can send all of my four kids to school and buy books and uniforms for them,” said Vienglai Bounyone, who used to have six months of food shortage each year.

Born and eventually married in Dakben Village in Sanxay District in Attapeu Province in the Lao People’s Democratic Republic, Bounyone and her husband were categorized as a very poor and vulnerable household by the district authorities. They used to practise seasonal rice planting and shifting agriculture and had a very small home garden, but this was inadequate for household consumption. They even collected wild vegetables from the forest for consumption and sale.

Having lived in this way for a long time, Bounyone wanted to make a change, so she decided to grow coffee with the support of the Rural Livelihoods Improvement Programme (RLIP). The RLIP was an integrated development programme implemented in three districts in Attapeu Province in 2011 by the Lao Government with the support of IFAD and the World Food Programme (WFP).

Through the programme, Bounyone bought a small piece of land and gradually started earning a little money by planting and selling coffee. “Harvesting coffee is very difficult due to the unfavourable geographic location. During this time, we had to move to another new piece of land provided by the government,” she said. With the money made from selling coffee, the family built a permanent house instead of the previous small house, where the roof had been so low it had been difficult to stand up straight.

Then, representatives of the Food and Nutrition Security and Market Linkages Programme (FNML) came to her village in 2014. After an extensive survey on the most suitable commodity, they suggested planting red cardamom. The village started planting

the first crop in 2014, and harvested and sold red cardamom in 2016.

The programme used a model in which the villagers were to find the cardamom seedlings by themselves. The seedlings were readily available in the forest. For every seedling planted, the farmer would receive US$0.02. In the beginning, Bounyone planted 200 seedlings on one hectare, for which she received US$46 from the FNML.

She harvests about 300 kilograms of red cardamom fruit each year, with a price of 60,000 kip per kilogram. “The price is better than that of coffee,” she said happily. “We also don’t need to take care of the plants every day like for coffee.” Besides support in planting, she also receives information about the market and prices. Her customers are not only local buyers, but also Chinese and Vietnamese traders.

Planting red cardamom helped change her life for the better. Also thanks to cardamom, she now owns a shop, which adds to her income as it is the only grocery shop in her village.

With technical training and support from the FNML, Bounyone built a drying facility for her red cardamom fruit, which has added value to her products. Currently, she and her husband have a plantation with two hectares of red cardamom. “We have three more hectares and plan to expand the area for planting red cardamom in the next five years,” she said proudly.

She and her husband worried about rats and changes in the weather that could stop the cardamom plants from delivering fruit. “These risks are our concern,” she added. “However, we need more people to harvest quickly when expanding our area.”

They want to plant the kountoum variety of cardamom, as it is in demand by Chinese traders. It would multiply profits fivefold as the variety can earn 300,000 kip (US$35) per kilogram. “Our long-term plan is to plant green cardamom,” she said.

Today, Bounyone has ended the practice of shifting cultivation, and now buys her rice and food from the market. She also has savings for emergency and medical needs. Based on her experience and knowledge, she can help train other farmers in cardamom planting so their lives can improve like hers.

“With such support, our lives are much better. Our children can go to school and will have a brighter future. I hope other farmers also enjoy the same happiness as us,” she said.

HOME GARDENING MODEL TURNS FARMERS INTO LEADERS

Farmers have boosted their incomes by developing the home garden model in a sustainable way.

Sixty-year-old Amphone Saythongpong (Khou), and her retired 66-year-old husband, were very active among the farmers of their village when operating a model for home gardening. However, they still fell under the category of "poor" as assessed by the district authorities. In a space covering 100 square metres, they grew some seasonal vegetables and sold a few products to other villagers. "It didn't help us afford to pay our living costs every day with three children and my grandmother," she said.

"We found many small ways to improve their lives when trying to expand our home gardening area, but it was impossible," Khou's husband said. "We faced many difficulties such as lack of gardeners, lack of water in dry seasons, lack of knowledge of gardening and connection to the market. But with support from the FNML (Food and Nutrition Security and Market Linkages Programme), we have overcome all of these problems."

With the initiative, Khou received a series of technical training courses, along with agricultural inputs to support her in overcoming roadblocks and gradually advancing towards sustainable agriculture and an improved livelihood. Home gardening aims to enhance food security in several ways. It does this through direct access to a diversity of nutrition-rich foods and vegetables, increased purchasing power from saving on food bills and making money from selling garden products, and, finally, through fall back food provisions for seasonal lean periods.

Since 2014, Khou has been a beneficiary of FNML interventions and applied for home gardening activity. The programme changed her home gardening practice, diversifying her garden by providing more than 20 varieties of vegetable seeds, along with support.

"The programme trained me on many useful techniques, such as on how to improve soil, prepare seed-beds, produce herbal pesticide. All are necessary to be successful," Khou's husband said.

As Khou earned more income from her home gardening, it motivated her to expand her gardening area. "I asked FNML to support my family with a small water scheme by providing an underground irrigation system," she said. "After some careful reviews, FNML provided me with a small water scheme with an initial investment of eight million kip."

Investing her energy in the garden, Khou and her family finally harvested fruit. Now, her family eat healthy food every day and their quality of life is better. She

can send her children to school, buy home products and pay electricity bills.

With an area of 5,000 square metres, in her home garden, she grows more than 20 different varieties of herbs, vegetables and fruits, including lettuce, coriander, morning glory, onion, garlic, mint, eggplant, chili, pumpkin, okra, long beans, cucumber, banana, papaya, cassava and moringa.

By using the FNML underground irrigation scheme, she can produce diversified and climate-resilient crops throughout the year. She generates about one million kip per month by selling the surplus to locals, restaurants and in the agricultural produce shop supported by the FNML in the district market. She earns an income of about 12 million kip (US$1,500) a year. Thanks to this, she has covered the FNML's investment in her irrigation scheme and reinvested in her garden.

In order to facilitate moving an agricultural product from the farm to the consumer, the FNML helped farmers understand the local market and presented opportunities to sell their products.

Khou generates income in three ways. She sells on-farm to locals, sells directly to restaurants, and sells in the district's agricultural production shop.

"I'm a proactive farmer. I believe in the slogan 'knowledge is power' and want to share it with others," Khou said proudly. She has already trained more than 200 farmers on various topics, including production of natural pesticides and herbicides, composting and water conservation techniques.

To date, the FNML has helped 324 households practise commercial vegetable farming, including 200 producer groups in 200 villages out of five targeted districts. The programme started in 2013 and is scheduled for completion in 2019.

It is envisaged that each targeted household will benefit from one key product, one niche product and increased nutrition from home gardening. Forty per cent of the targeted households will benefit from access to clean water. It is expected that net incomes of participating farms, excluding the value of family labour, will increase from LAK 1,893,580 (US$218) to LAK 5,403,740 (US$621) at the full development stage. Benefits include productivity increases – of between 20 and 25 per cent – area increases, shifts in cropping patterns and enhanced price margins for producers due to value chain interventions.

The FNML has given farmers an opportunity to follow Khou's example. She was identified as the FNML's "lead farmer" and actively conducts farmer-to-farmer extension sessions to spread the practices in and around her community. She is considered a local champion in home gardening as she practises sustainable and climate-resilient agriculture. She has also has diversified by integrating fruit trees along with vegetables and by establishing a commercial chili plantation.

Food and Nutrition Security and Market Linkages Programme (FNML)

Implemented in the provinces of Sekong, Salavan and Attapeu in the south of the Lao People's Democratic Republic, the FNML aims to reduce extreme poverty and hunger by: (i) tapping the agroecological potential to target markets; and (ii) improving food and nutrition security in the target area. Implemented since 2013 by the Lao Ministry of Agriculture and Forestry as the national lead with support from other agencies, the programme has benefited 12,000 households, with 70,500 direct beneficiaries in 175 villages.

NO NEED TO MIGRATE FOR JOB

One young farmer no longer has to migrate and is now the leader of the vegetable cluster.

Upon marrying in 2018, Kim Srien (now 28) received a piece of land – a small rice field of 1,000 square metres – from his parents, who are farmers. They used to grow rice during the wet season and water convolvulus (water morning glory) during the dry season. His father installed a tubewell so that he could have water for growing the water convolvulus.

Like other beneficiaries of the Project for Agricultural Development and Economic Empowerment (PADEE), Kim was given training on various topics in farming and enterprise budgeting. He is interested in compost-making and growing vegetables typical of his commune. He produces very good compost. Even though farmers and his cluster's members want to buy his compost, he can make only enough for his own production at this stage.

To cultivate vegetables, he needs suitable land that is not waterlogged during the monsoon season. He thus decided to convert half of the paddy field he received from his parents to make it suitable for vegetable production. He has the same plan for the remaining half. He hopes that in two years' time he will save enough money from his vegetable enterprise to convert, and invest in, the remaining land.

Kim used his own labour to build raised beds, ditch drains, etc. in order to make the field fit for growing vegetables year-round. When the project set up a vegetable cluster, he not only was chosen as the cluster leader, but he also volunteered to showcase vegetable production in net or UV houses. With five other volunteers for the new techniques of vegetable production, Kim received 60 per cent of the cost for building his net house for vegetables. While members in his cluster continue growing conventional leafy types such as bok choy and soy sum, Kim grows cabbage, the very first cabbage crop his villagers have seen growing in their community.

Project for Agricultural Development and Economic Empowerment (PADEE)

Implemented from 2012 to 2018 with a budget of US$46.14 million, the project's goal was to improve the livelihoods of poor rural people in the target communes in Kampot, Kandal, Prey Veng, Svay Rieng and Takeo Provinces. It was expected to benefit about 90,000 rural households.

The development objective of the project was to diversify the sources of income of rural households living in poverty in the selected provinces. In particular, the project aimed to improve: agricultural productivity; access to financial services; and access to technology and markets. In addition, the project aimed to create other rural business development opportunities in the target areas.

Kim and the members in his cluster who grow their vegetables organically have contracts with a wholesaler in Phnom Penh. Their organic produce fetches KHR 3,000-3,500 per kilogram (US$0.75-US$0.87 per kilogram), while non-organic produce can command a price of only KHR 1,000-1,500 per kilogram (US$0.25-0.37 per kilogram).

However, one noticeable change in the agronomic practices of non-organic grower members is that they follow good agricultural practices that reduce the use of agrochemicals, which is good for the environment, their health and consumer health.

TECHNOLOGY SHOULD GO WITH TECHNICAL FEASIBILITY TO WORK WELL FOR RURAL FARMERS

Despite a power-supply setback, a female farmer has benefited from training & technology.

Yoy Thy is a 37-year-old farmer in Prey Khnes Kor Village (Prey Khnes, Mesang District, Prey Veng Province, Cambodia). She completed Grade-12 education and married a high-school teacher in the district. Her husband helps her with farming in his spare time.

In the second part of 2012, Yoy was recruited as a beneficiary of the Project for Agricultural Development and Economic Empowerment (PADEE). She received training on topics such as crop production, livestock-raising, financial literacy, and entrepreneurship.

Before joining the project, Yoy grew rice and kept a pig and a few chickens (the chickens were always allowed to roam). She planted some vegetables for home consumption. Her family lived in a small, dilapidated, wooden house on stilts.

Now, after five years with the project, the family has a nice newly built wooden house on concrete stilts with a tiled roof and cement floor.

After receiving relevant training with some basic material support for introduced technologies, and with a small loan from the Improved Group Revolving Fund, Yoy began growing vegetables for sales, and improving the productivity of her rice crop. Using very basic techniques, she also started hatching

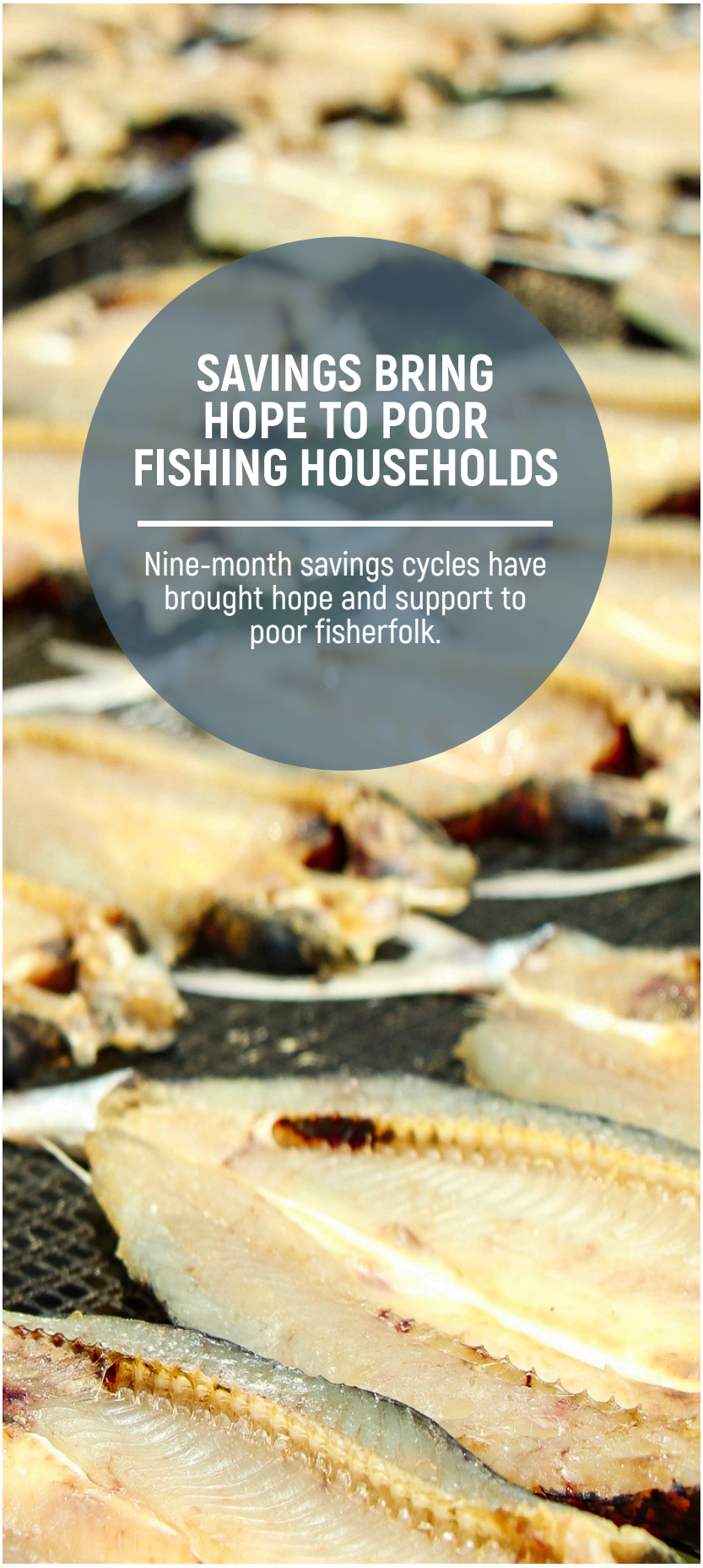
chicks for sale to other villagers. She hatched about 100 chicks every 21 days or so with heat from a fuel lamp in spongy containers given by the project. This became a new livelihood for her.

When the project promoted and facilitated the establishment of a chicken value-chain cluster in the commune, she joined it. The project then introduced a better hatching technology that uses electricity. Yoy and four other beneficiaries in the chicken value-chain cluster in her commune were given hatching machines – electrical incubators – to try.

In the first month (October 2017) they started using the machines, everything went well. But in subsequent months until March 2018, while hatching was not a problem, the incubators consumed too much energy, which cost her and the other four innovative farmers a lot of money. All of them decided to stop using the incubators completely.

The problem was found to be that the local power supply was below the required threshold and unstable. All five incubators are now left unused. Everyone switched back to the first technology introduced – hatching with the heat of a kerosene lamp.

Note, however, that the same technology worked well for project beneficiaries in the provinces of Kampot and Takeo, as their districts did not have a problem with the power supply.



SAVINGS BRING HOPE TO POOR FISHING HOUSEHOLDS

Nine-month savings cycles have brought hope and support to poor fisherfolk.

Saving is a challenge not only for a typical fishing household but for many in low-income rural communities. With their meagre income, these families find it difficult to set anything aside for later. However, many coastal barangays of the Fisheries, Coastal Resources and Livelihood (FishCORAL) Project have proved that even the poorest of the poor can manage their income and save money.

One example of this is Eliza Valmoria, a fish vendor in the community of Punta, Nasipit in Agusan del Norte. She earns an average of PHP 3,000 (US$57) a month, and the money goes directly towards raising her three children. Remarkably, she still manages to save every week. Together with other members of the Punta Fisherfolk and Dwellers Association, she has regularly attended FishCORAL training sessions on household financial management and financial literacy. Among the different training modules, she is most interested in savings mobilization, and she is a member of a savings club of fisherfolk.

The club meets every Saturday to discuss and hand in their savings, which can be as little as PHP 50 (US$1). The assigned record-keeper is responsible for recording all savings in a savings passbook. At the gathering, the members have the chance to explain the club's policies and rules to current and new members.

The group's savings are consolidated into a loan fund from which members can borrow at an interest rate of from 5 per cent to

10 per cent depending on the group's consensus. Members are allowed to borrow up to three times their total share and must re-pay within three months.

"I like this savings group because anytime I need money, I can borrow it without difficulty and with fewer requirements," said Eliza Valmoria.

Elvira Lasco is also a member of the savings club. She was able to save PHP8,800 (US$169) after a cycle of nine months. With the savings revolving throughout the period among the members, her savings increased to PHP10,755.36 (US$206). This means that within the nine-month savings cycle, she earned PHP1,955.36 (US$37.5), or 22.22 per cent, from her savings.

"Saving was not easy at first since I have children attending school," she said. "But with proper guidance, I adjusted my budgeting and I am happy that I am now able to save."

This is also the aim of the Masao Rural Improvement Club – Savings Mobilization Club in Masao, Butuan City. Evangeline Ighot, chair of the club, stresses that savings mobilization has been a big help for them.

"Instead of borrowing money from lending organizations that offer higher interest, we borrow within our own club," she said. "The interest on our loans comes back to us through dividends shared at the end of the saving cycle."

A total of eight savings clubs are now operating in the Caraga Region. Through the clubs, fishing communities have gained household financial management skills, and appreciated the learning and empowerment opportunities provided by the FishCORAL Project. Aside from saving, they have also built camaraderie by establishing a social fund to assist one another financially in the event of sickness or emergencies.

Fisheries, Coastal Resources and Livelihood Project (FishCORAL)

With a total budget of US$40.04 million, FishCORAL is a five-year project (2015-2020) jointly funded by IFAD, with counterpart funding from the Government of the Philippines, local government units and civil society organizations. The project aims to boost the marine ecosystem and promote sustainable fishing communities. More than 180,000 poor households in coastal areas will benefit.

Such achievements, now owned by the communities, are good indicators of sustainable development through this model, and of good practices for other areas to adopt.

STEPPING UP: SUSTAINING AGROFORESTRY

Farmers, groups in the Philippines are stepping up to continue projects and sustain livelihoods in their communities.

The Second Cordillera Highland Agricultural Resource Management Project (CHARMP2) has assisted a number of farmers, groups. One of them is the Banengbeng People's Organization, a beneficiary of an agroforestry project.

"I believe that planting is helpful and beneficial to the community and to families," said James Rafael, Captain of Banengbeng Barangay, when asked why he joined the project.

One of the project's subcomponents is agroforestry geared towards natural resources management and forest conservation. Rafael added that agroforestry and planting trees play an important role in protecting the environment. He is an active member of the Banengbeng People's Organization, which was organized in 2009 with 29 members.

The organization's members have planted grafted rambutan, lanzones and other fruit-bearing trees like coffee and lemon plants in their individual agroforestry plots. Both rambutan and lanzones are introduced species in the barangay. Rafael said that the group wanted to explore the possibility of planting other kinds of fruit trees besides those already grown in their community. He added that some community members had tried to plant rambutan and lanzones before and these trees had thrived, bearing sweet fruits. Rafael also noted that, because of good project implementation and the potential of agroforestry, some of their neighbours have been encouraged to plant fruit trees to maximize the output of their land.

"Our members are always cooperative and helpful to each other, so we did not find it difficult to implement," said Geraldine Cayat,

a bookkeeper for the organization. She added that they did not experience financial problems because the members worked hard to help with various activities of the organization. Their work without pay has saved more than PHP50,000 for the organization. The members collaborated for free to construct a nursery where their identified plants will be propagated. The nursery measures about 60 square metres and its plants are not limited to fruit trees.

Their supposed labour wages, amounting to US$150 per day, stayed within the organization's grant. "We thought of saving the money intended for our labour to buy additional planting materials in case the purchased seedlings were not enough," explained Rafael. They also considered the possibility that some seedlings might not survive due to improper handling during transportation, poor quality of purchased planting material, natural disasters such as typhoons, and climate change. "If a seedling dies, we replace it immediately," he said. The dead seedlings will be replaced with any available fruit trees in the community. Moreover, to maximize its utilization, their nursery is open for free to all community members who want to propagate or reproduce plants.

Generating Income, linking with potential partners

With the organization's growing capital, accumulated through free labour and organizational dues, they decided to propagate coffee as an income-generating project. They first bought three kilograms of coffee beans for propagation from the Benguet Provincial Federation of Indigenous Forest Guardians, a federation of agroforestry and reforestation people's organizations. The beans were planted in individual pots, and after from three to six months they resulted in 700 plants ready for transplanting. Prior to that, the organization had linked with a power corporation. "We want to partner as a group so that the benefit will go to the organization, not individuals," Rafael said.

"This is a good opportunity as it provides us with additional income," Geraldine Cayat added. The Banengbeng People's Organization is ready to offer re-lending services to its members. They have already drafted a policy, which is pending finalization and approval at their monthly meeting. Exclusively for the 29 members, re-lending is used solely to sustain the agroforestry project in the barangay. Initially, a maximum of PHP5,000 (US$96) is allowed per member and is payable within six months with an interest rate of 5 per cent. Many of the project-assisted organizations have generated additional income to fully utilize their projects and sustain their operations. Although additional financing will be focused more on 18 expansion barangays, consolidation of project gains and strengthening of local capacity in the initial barangays will continue.

Cordillera Highland Agricultural Resource Management Project (CHARMP2)

Building on the success of the first phase, the project concentrates on areas where poverty is most severe in six provinces in the northern Philippines: Abra, Apayao, Benguet, Ifugao, Kalinga and Mountain Province. The aim is to reduce poverty and improve the livelihoods of tribes living in farming communities in the mountainous project area, where more than half of the people are poor.

The project focuses on the value of indigenous farming systems, which are environmentally sustainable. The project supports the government's decentralization policy by promoting the participation of local communities in planning activities, and by supporting local government units providing services to the communities. It also supports implementation of the Indigenous Peoples Rights Act, landmark legislation that recognizes the values and institutions of indigenous people and their right to manage the natural resources in their domains.

INNOVATIVE, RISK-TAKING FARMERS

With a microfinance loan, one couple move into raising crickets and look to the future.

Haen Kunthea, 33 years old, is married with two young sons. Although pregnant, she is responsible for most of her family's farming activities. Her husband, Minh Kongkea, is a construction worker who was very mobile until about two years ago. He migrated to Phnom Penh and travels frequently to Thailand for work. In terms of education, Haen completed Grade 6 and her husband Grade 4.

Nearly two years ago, when Minh came home to help his wife with farming tasks during the monsoon season – the rice-cultivating season of the year – he heard of a planned training course on farm livelihoods based on activities that did not involve land. He expressed interest and was invited to attend the training that covered, among other topics, raising crickets. He became very interested in the raising crickets and, while doing his training, he tried to consolidate his newly acquired learning by watching relevant videos on social media.

Minh shared everything he learned with his wife, and planned to start raising crickets as an enterprise. He discussed his passion and plan with his wife, who manages the family finances.

Haen agreed with her husband about starting their new business. It was also new to

their whole village. Haen faced one big problem. Her family's savings were not adequate for the investment. Therefore, she and her husband took out a loan from a microfinance institution. They borrowed US$1,000 at an interest rate of 1.5 per cent per month. They have now been raising crickets for a year.

Haen's husband continues to migrate for construction jobs, but less frequently and only to Phnom Penh. He spends more time at home taking care of their cricket enterprise and transporting their harvest to a popular market in Neak Loeung, far from their village.

They still live in their old house next to their cricket farm. Their cricket farm is not only new, but of much better quality than their house.

DEVELOPMENT OF PRODUCER-PUBLIC-PRIVATE PARTNERSHIPS THROUGH VALUE CHAIN LINKAGES

Farmers are benefiting from knowledge centres through the first project financed by IFAD in Myanmar.

In Myanmar, farmers usually grow cereal and vegetable crops using traditional methods and sell their produce at local markets for a low price. Moreover, there is a little diversification of income generation in the rural community. As a result, the incomes of poor rural households are lower than in neighbouring countries.

The project Fostering Agricultural Revitalization in Myanmar (FARM) has introduced a new method to complement extension services benefiting both farmers and landless micro entrepreneurs across the project area. At the heart of FARM's innovation is the establishment of knowledge centres (KCs). Built on the structure and network of public extension services, KCs are staffed by a ministry extension worker – the KC manager who brings together farmers and micro entrepreneurs in common-interest groups and helps them make the most of newly available extension services. This approach makes it easier for communities to access knowledge, technology, inputs, financial services, market information, etc. Thus, farmers learn how to grow more better-quality produce and adapt to new, more profitable markets. The entire project is focused on a market-oriented, bottom-up approach, ensuring communities are closely involved from the very start of the process. In this way, they receive what is most important to them.

U Zaw Oo is one of the farmers supported by U Yin Min Soe, the KC manager in the Mezali Kone area of over 2,000 acres (more than 800 hectares), which are farmed by more than 700 farmers from five different villages. Last year, U Yin Min Soe organized a meeting at the KC between local farmers, groups (which he had helped form) and representatives from the Myanmar Agri Foods Company. During this meeting, the company offered to contract farmers to grow taro, long bean, okra and pumpkin. "They provide technology, seeds and inputs to grow taro, and will buy all the taro I grow at a price we have already agreed on," said U Zaw Oo. "Thanks to this contract I now have a stable market and a guaranteed profit. This is all

thanks to U Yin Min Soe, who invited me to the meeting at the Knowledge Centre and helped me understand how the contract with Myanmar Agri Foods Company would work." Aside from contract farming, U Yin Min Soe said he helps the farmers with "demonstrations, like for good agricultural practices, seed production and new techniques. I also help landless people in these villages. All of us KC managers have learned a lot thanks to the training provided by the project, and when we move to the next assignment with the Department of Agriculture, we will bring our new skills with us."

When the taro is harvested, he will sell it to the Myanmar Agri Foods Company based on a contract signed at the start of the season.

U Sein Han is another seed-producing farmer in the same area. Thanks to his KC manager, he learned of new seeds available from the Department of Agricultural Research in the Ministry of Agriculture, Livestock and Irrigation. He also discovered that a local input supply company was selling fertilizer, pesticides and herbicides. In collaboration with the department, he agreed to conduct a demonstration of new inputs on his land. "I wanted to learn the technique to produce better seeds, and then sell those to other farmers so that I could have some more income," he said. Under the terms of the demonstration, U Sein Han paid back 35 per cent of what he received to his KC account. This is part of a strategy to gradually make the KC financially independent from IFAD or government support and remain sustainable once the FARM project is completed. Before the creation of the KC, U Sein Han produced an average of 60-80 baskets of seed per acre every season. At the end of this season, his yield had increased by about 40 baskets per acre – in other words, by at least 50 per cent.

Labourers transplant rice in the demonstration plot belonging to U Sein Han, in Mezali Kone, Myanmar.

Tun Win, FARM's Project Director, said that to date the project has reached 2,000 households and that contract farming is a tool to capitalize on the opportunity for Myanmar's economic growth and for improved livelihood and capacity of local farmers. He said: "The farmers involved in contract farming experienced both higher revenue and profit because of increased yield of their crops and expansion of their varieties. This is thanks to the cooperation between KCs and the private company by assisting training, credit and linking the value chain actors. The farmers also demonstrated an ability to diversify their sources of income to incorporate other crops or livestock."

Fostering Agricultural Revitalisation Project (FARM)

FARM is designed to introduce regional and global best practices in sustainable and scalable smallholder agriculture and rural development across Myanmar's central dry zone. It supports land consolidation and development, productive infrastructure, agricultural and business services, and knowledge- and capacity-building to promote an inclusive development model in this area. The project focuses on promoting a market-oriented approach. Implemented from 2014 to 2020, its budget is US$27.82 million.

CREATING THE "CLEAN" CHAIN

Local people are happy to improve agricultural production and lower pollution.

Ben Tre is a province of rivers and waterways. The people live mainly from agricultural production from a garden economy and marine economy. Difficulties exist in the form of a lack of funding, a lack of production means, and products going to waste due to market fluctuations and climate change. Funded by IFAD, the AMD Ben Tre Project provides benefits to 30 communes from eight districts as they aim to build a sustainable economy for poor people in rural areas struggling against climate change.

Environmental pollution in the countryside

Ba Tri District holds the largest number of households that raise cattle in Ben Tre Province. About 100,000 of the district's 210,000 households raise cattle, making rural environmental pollution from livestock waste a critical issue. Due to the high volume of livestock waste and the unstable selling price of cattle manure, the Phu Hung Thinh Company was able to create a market to collect and buy good-quality raw materials via contracts that set a stable price. Using animal waste, microbiological processing, earthworms and long periods of incubation with coconut shells, clean soil is produced. Farmers, groups responsible for collecting and selling cow waste will receive investments from the company in order to have clean soil to grow clean vegetables. This is one of the key mutual benefits to address rural pollution.

Limitations of agricultural commodities

Recently, the prices of agricultural products in Ben Tre Province have been low and unstable. Another issue is the residue of pesticides and chemicals used to protect vegetables and fruits. Driven by profit, farmers have been misusing fertilizers and chemical drugs during the production process. Products are harvested before the chemicals can vaporize effectively at the end of

the isolation period. This not only affects consumer health but also the farmers by reducing land and water resources in the future. The Viet Tam Manufacturing and Trading Company connects the production and consumption of agricultural products made by farmers that follow safe production procedures. In addition, the company has excellent training courses for plant breeding, planting, seeding times and disease treatment via organic methods.

The launch of a "clean" value chain

In 2017, the AMD Ben Tre Project examined the outstanding performance of the above two companies and provided funding support to help create a value chain from clean soil to clean vegetables. The goal was to increase income for rural people through investments in local businesses, utilizing animal waste to form a clean vegetable market. The project also guides the vegetable industry towards fully organic farming practices while minimizing environmental pollution from livestock waste. It aims to form a habit within rural people to buy, sell and cooperate with enterprises through collaborative groups. In return, this will reduce risks during the production process, stabilizing product prices and raising revenues for both farmers and businesses.

The two companies have found common ground with farmers. To date, 158 households have signed contracts with the Phu Hung Thinh Company, including 47 poor households and 45 female-only households, and 92 households (including 30 poor households and 37 female-only households) have signed contracts for safe, clean vegetable production with the Viet Tam Manufacturing and Trading Company. Thanks to the funding sources, the project and the enterprises have created a production chain from livestock waste to clean soil and clean vegetables. The chain provides clean products that are environmentally friendly, healthy and can provide stable incomes for rural people.

Value for stakeholders

The value of the production chain is that it is a continuous, closed process that delivers clean soil and clean vegetables to users. This is truly a production chain that has great contributions from poor people. Nguyen Loc Tung, Director of the Viet Tam Manufacturing and Trading Company, shared: "The model of the company is in line with the direction and policy to develop a lasting value chain for the province and the district. Coming from a peasant family, I have extensive experience working with farmers as well as in agricultural production. Prior to founding the company, I had been involved in the field of clean food, with six years' experience in the industry. My desire is to have a clean environment and food sources."

The chain created by Phu Hung Thinh Company has contributed to reducing rural pollution. Local people have been connected together in groups, forming a closely linked system. Phan Gia Thinh, Director of the Phu Hung Thinh Company, said that initially it had been difficult to convince people to join the group, but over time, through the company's campaign and with support from the local government, people had agreed to buy into the groups. More than a year into operation, local people are very happy to cooperate with the company because of the never-before-seen production quantities and price stability. The company also invests in clean soil for the local people to grow organic vegetables, improving their lives and economic standing.

Project for Adaptation to Climate Change in the Mekong Delta (Ben Tre and Tra Vinh Provinces)

With a budget of US$49.34 million, the goal of the project is to support sustainable livelihoods for rural poor in a changing environment, strengthening the adaptive capacity of target communities and institutions to better contend with climate change. Communes are selected in each province based on their poverty ranking, vulnerability to climate change. The two main components of the project are:

- building the capacity for climate change adaptation with participating communities, institutions and provinces for agriculture and the rural development sector;
- investing in sustainable rural livelihoods by providing financial means and facilities to scale up the results of community-based research and development in this sector.

ADAPTIVE AGRICULTURAL SYSTEMS FOR CLIMATE CHANGE

A 70-year-old has used earthworms and frogs to help his community adapt.

Thanh Thoi A Commune, located in Mo Cay Nam District, is a commune classified as poor on the banks of the Ham Luong River, about an hour's drive from Ben Tre City. Residents' livelihoods rely on coconut trees and small livestock. Since 2015, the impacts of climate change have become more severe in Ben Tre Province, causing prolonged salinity alongside droughts. The situation has affected large areas that used to grow coconuts, resulting in a significant reduction in coconut production. In addition, livestock farmers have been badly affected by fluctuating market prices, as the demand and price of both pork and chicken have fallen dramatically. As a result, many farmers within the area have found themselves doing non-farm jobs or working as hired labour in neighbouring areas.

Innovations in farming systems

In early 2017, the AMD Ben Tre Project deployed pilot farming models for blue-clawed prawns in rice fields in the form of salt-tolerant rice and a water-saving distribution system. Thanh Thoi Commune received funds to implement a model to raise earthworms. A 70-year-old farmer, Nguyen Van Them, decided to make his own contribution to the model.

Due to his family's economic struggles, he had to raise cows. Nguyen now uses the cows' manure to raise earthworms.

Many would think that this small model just solves the problem of cow waste, but in reality, he has created an incredibly effective farming system. Initially, the AMD Ben Tre Project provided him with some funds to keep raising worms to sell to local people. From there, he made the decision to expand and invest in raising frogs and blue-clawed prawns in his garden's ditches. With his self-devised model, he can now raise 500 frogs and 700 prawns in his garden, using the earthworms as a food source.

Initially, he only sold the frogs and prawns to local people and at commune markets. He was able to sell them at rather high prices as his products were fresh and clean.

Linking and support

Having seen the success of the farming-model concept, two other households that had bought earthworms from Nguyen contacted him to learn more about his model. They offered to cooperate to create a frog farming group in An Trach Hamlet, Thanh Thoi A Commune. Through community meetings and the launch of the AMD's funds for agriculture and preferential loans – with the goal of developing farming models that could adapt to climate change – the group managed to access funding. Group members made use of existing lakes and ponds, digging and clearing the waterways to ensure frequent water circulation to create a healthy habitat for frogs. The group chose to buy healthy frogs from neighbouring districts. Each member raises 5,000 frogs, for a total of 15,000 frogs. After three months of raising the frogs using earthworms, each frog weighs about 0.3 kg and the average price is VND 35,000 (US$1.5) per kilogram. Each household sells all of its frogs for VND 42 million (US$1,796). The group sets aside VND 19.7 million (US$842) to raise the next batch of frogs (US$235 for frogs, US$436 for earthworms, US$85 for veterinary drugs, and US$85 for back-up plans). As a result, after three months, each household makes a profit of US$100. This is a considerable amount of income, as local households do not usually earn this much.

Making dreams come true

Despite his age, his fading stamina and his struggle against poverty, Nguyen has formed a suitable farming system, one that is sustainable for poor people and adaptable to climate change. This farming model can be transferred to other agriculture products and help create a stable income for the families in the area. Tran Van Hung, head of the frog-raising group, said: "I am very impressed with Nguyen. He refused to be the leader due to his age even though his ideas, experience, and techniques completely surpasses everyone here. All of the members are from poor households of the commune, and we were getting poorer due to climate change. But thanks to Nguyen's idea and the project's funding, we can now fight back and improve our lives bit by bit."

Through discussions with the group, the members got excited about the project. Nguyen said: "Back when I was raising cows, I used the waste for the coconut and fruit trees around the house. Over time, the unpleasant smell started to make its way to surrounding households, so I switched to raising earthworms, frogs and shrimp. At first, there were a lot of people who laughed and said that what I was doing would not take me anywhere. And I slowly showed them the results of my work. My family's economic standing has increased significantly since I created this farming system."

ORGANIC GINGER – HOPE FOR A "THIRSTY LAND"

Through an organic-ginger value chain, farmers have improved their income in in one of Viet Nam's poorest provinces.

Before participating in model for organic ginger, farmers in Van An Commune of Ha Quang District could grow maize, peanuts or soybeans only one season per year. They earned almost no income from the dry, rocky soil that lacks water all year round.

In order to help farmers find an appropriate agricultural solution to increase income, the Commercial Smallholder Support Project (CSSP) and the Duc Chung Company have cooperated to pilot and replicate the model for organic ginger in three communes (Van An, Cai Vien and Noi Thon). The characteristics of ginger, which does not require much water, are appropriate for the area's climate. Local farmers decided to switch from maize to ginger.

The price of organic ginger is 20-30 per cent higher than non-organic ginger. In addition, growing organic ginger has contributed to protecting the area's environment. Therefore, the project and the company have oriented local farmers towards applying European organic-ginger farming procedures to earn better incomes and adapt to climate change.

"With ginger, I can earn more than growing maize, because three ginger plants are as valuable as five maize plants, and ginger consumes less water. It has brought a regular source of money to me and my family," said Nguyen.

Public-private partnership – a way to boost income

Just one year after being piloted in 2016, the model had been replicated in three communes in Ha Quang District through a public-private partnership (PPP) between Cao Bang CSSP and the Duc Chung Company. Since early 2017, the project has connected the company with common interest groups consisting of local farmers in the project areas. It reached a significant milestone when the groups signed a long-term contract with the company in November 2017, thanks to the technical support of Cao Bang CSSP. In 2017, the Duc Chung Company consumed 250 tons of organic ginger, generating VND 1,625,000,000 (about US$71,000) for participating farmers. The total production area of organic ginger in the three project communes has reached 55 hectares, with an average production of 20-25 tons/ha.

In 2018, local farmers grew 165 tons of ginger seedlings from the previous harvesting season. With the support of the CSSP for all stages of production, they were expecting to harvest over 1,200 tons of organic ginger in 2018, five times more than in 2017. The growing procedure for organic ginger in Ha Quang District has closely followed the guidance of the International Federation of Organic Agriculture Movements. In addition, it has been certified by a third independent partner of the Netherlands to meet EU standards for organic products.

This success is mostly attributed to the target beneficiaries of CSSP, 268 poor households belonging to 11 common interest groups. With the CSSP and the PPP approach, they have radically transformed appropriate seeds to suit the weather and climate in the Ha Quang area, increasing sustainable income, and eliminating hunger and poverty.

From challenges to belief

At the beginning of the project, local people did not really believe in organic ginger's suitability and productivity. They hesitated to participate in the model.

The CSSP, in cooperation with the Duc Chung Company and the local government, has strived to provide local people with information, technical assistance and a commitment for consumption through the contract. Gradually, local farmers have been more willing to participate and are seeing the impacts of the model. With technical training and advanced seedlings, organic ginger has become the major source of income for local farmers, creating hope and belief in a better life for themselves and future generations.

Nong Van Hoa, Chair of Van An Commune, stated: "Over the last few years, our local farmers have been really happy and convinced to take part in this PPP. In difficult times, the government worked with farmers and the company to find solutions to make the farmers believe in production. The company has a plan to enlarge the production areas and will accompany local people after the project ends. We have found this PPP very effective for replication in other areas."

Commercial Smallholder Support Project (CSSP)

The project in Bac Kan and Cao Bang Provinces is financed through an IFAD loan (US$42.5 million), an IFAD grant (US$0.5 million) and co-financing from the Government of Viet Nam and project beneficiaries. It has built an enabling environment for the private sector to help raise agricultural productivity, create rural employment and generate rural income through developing and promoting value chain linkages between rural households, including poor households, and the growing demand in urban centres and the global market.

To accelerate rural poverty reduction, the Government of Viet Nam and local authorities in Cao Bang have identified the need for pro-poor investment in market-oriented agricultural production and processing systems. In other words, creating a value chain between small-scale farmers and the private sector can achieve greater productivity and better integration into national and global markets.

PIG FARMERS DIVERSIFY THEIR INCOME AND TRANSFORM THEIR COMMUNITIES

One group is raising black pigs for a better future.

In order to support one another in both production and quality of life, 10 households in Ban Lua Hamlet, Linh Ho Village (Vi Xuyen District, Ha Giang Province), formed the "black pig raising and trading group." The group has become a stable source of income generation for the families while contributing to the successful deployment of the country's new rural development programme, which is growing in the province.

This model of operation was implemented in early 2017 with support from Ha Giang's poverty reduction programme in the form of commodity production. As a result, the group received VND 110 million (US$4,700) to build breeding facilities and buy seedlings. In addition, households that are members of the group received training on breeding techniques, care and disease prevention. Dao Van Tuyen, a group member, said: "Having realized that the demand for pork was growing rapidly in the market, especially for black pork, we decided to choose the model of raising

only improve our economy but also protect and grow the pig breeding in our areas. Although the households are categorized as close-to-poor, each household could raise from 20 to 40 pigs per batch on average." The main foods used to raise pigs are banana trees, various vegetables and other agricultural by-products. Although it takes longer to raise this breed, the quality of the pork is always guaranteed and consumers like it. "Each year, households are able to sell two batches at the current market price of VND 60,000 (US$2.5) per kilogram. Since the initial investment budget was not large, after deducting other expenses each family can still make a considerable profit. We use about VND 20 million – VND 25 million (US$854 – US$1,068) annually to reinvest and improve our lives," said Tuyen.

In addition to selling pigs for commercial use, the group now also sells dried meat and jerky. The products are produced by the group's members, all the way from drying to the packaging process. In the past two years, the group's black pork jerky has been enjoyed by many people, including customers in major cities such as Hanoi and Hai Phong.

Mung Thi Hang spoke about the dried black pork: "This was not the original target product of the group, but rather it was created when the market was down and pig prices declined. Given the market situation and the selling price of hogs at that time, some households decided to invest in drying ovens to produce the black pork jerky. The meat was selected using a set standard, and then spiced with locally available condiments such as fine grains, chopped nuts and chili. It was then dried using charcoal to give a unique colour and taste before being bagged for sale."

Mung added: "Initially, only a few kilograms of the product were sold to certain dedicated customers. Then, customers gradually came to buy more. From November 2017 to June 2018, the group processed in total 260 kg of dried pork (equivalent to over 800 kg of raw pork). The average selling price is from VND 380,000 (US$16) to VND 400,000 (US$17) per kilogram. In total, we have sold over VND 100 million (US$4,274) of dried pork. We are able to sell all of it as fast as we can make it."

In addition, the 10 households within the "black pig raising and trading group" in Ban Lu Village frequently share their experience in breeding with others, and consult on pricing to deter fluctuations within the market. They also actively seek to learn from mass media and from training courses on veterinary care. They have learned how to keep their breeding facilities hygienic in order to prevent disease outbreaks, as well as to give the pigs space to grow.

Ha Van Nguyen, Chair of the Commune People's Committee, said: "The black pig breed of Ban Lu has proven to be very effective. This market-oriented product was made from native and clean production processes, utilizing readily available local food sources. From this success, the commune will continue to mobilize people to participate in the group. More groups run by local households will be created in order to produce and breed different types of plants and animals. This will help create a new atmosphere for the emulation movement in agricultural production. The group's success has inspired commune leaders to develop similar models that will help farmers access markets and have sustainable sources of income."

RAISING HIGHLAND CHICKENS FOR GOOD INCOME

Persistence has paid off for a pioneering chicken farmer and her community.

In recent years, using the hills and forests to their advantage, many households in Thanh Son 2 Hamlet (Thai Thuy Commune, Le Thuy District, Quang Binh Province) have been focusing on the development of a model for large-scale chicken farming. The model also includes disease control to create clean, safe products for consumers. This has helped many households escape poverty by creating jobs and improving lives.

Nguyen Thi Bich was one of the first to be successful with this model, and since then she has become a pioneer in the highland model for raising highland chickens. In the past, she and family were only used to small-scale farming. There was a lack of disease control and the products only served the needs of the family. As a result, their income was almost non-existent.

"With the help of the Sustainable Rural Development for the Poor (SRDP) project implemented in Quang Binh in 2015, after learning how to breed biologically safe chickens and learning that economic benefits are much higher than traditional shrimp farming, I invested money to raise chickens in my three-hectare garden on the hillside," Nguyen said. "Initially, my family raised around 500 chickens."

After about three months, the chickens had grown well and adapted to the local environment. The weight of each chicken reached about 1.6-1.8 kilograms. After selling them, she managed to bring back around VND 20 million (US$854). Having realized the economic potential, she bravely invested in raising a bigger brood. Now her family can afford to raise three batches each year, with more than 1,000 chickens in each batch.

Raising chickens has helped many households

According to Nguyen, chicken farming should follow production standards. There are fewer disease outbreaks and the cost of investment is also less than in the industrial model. Nguyen said raising the chickens is not too difficult as she only needed to make a few sheltered sheds for the chickens to sleep in at night. They are

fed twice a day, once in the morning and once in the afternoon. During the day, the chickens can roam around to feed on grass, insects and maize near the forest.

This freedom also gives the meat its delicious and juicy quality, which consumers prefer. Around Lunar New Year in 2017, Nguyen's family sold about 1,000 chickens, with a total weight of between 1.5 and 2 tons. She managed to make an estimated profit of about VND 45 million (US$1,923).

After 10 years of persistently following this model, Nguyen's family has become a middle-income household and her children can receive a proper education.

Not far from Nguyen's residence lies the house of Dinh Thi Ngoc. Albeit on a smaller scale, Dinh follows the same model as Nguyen and has been seeing noticeable changes in her family's economic fortunes. Dinh said: "I noticed that Nguyen and some other households were raising chickens quite leisurely and still managing to earn quite a lot of money, so my husband and I decided to invest in this chicken farming model as well. Chickens are fed using mainly maize and leaf-based vegetables instead of industrial food, so they have very firm and delicious meat that is popular with the people."

Dinh and Nguyen are two important members of the highland chicken-raising cooperative group. By the end of 2015, with support from the SRDP project, the group's members had worked together to build a long-term business plan. They also signed a contract to supply chickens to, and purchase products from, large livestock enterprises. As a result, the group's production and business activities have been developing quickly.

"We started off with only a few hundred chickens for our first batch," Dinh said. "Now, this is expanding. We are running the model with each batch having from 1,000 to 1,500 chickens. We are able to sell three to four batches each year so our annual income is up to around VND 50 million (US$2,138), and I am really happy about it."

According to Le Cong Toan, Chair of the Quang Binh Farmers Association, farm development is one of the province's major policies to fully develop its strengths, especially in terms of land and labour resources. He said: "This chicken-raising model is contributing significantly to the growth of the agricultural field. That confirms that this is an efficient commodity production model that helps to develop the social economy in Quang Binh. When combined with the formation of joint ventures, establishing mutual support to develop Thanh Son 2 Hamlet, it has greatly reduced the cost of investment and limited the risks within the consumption market. Lands are utilized, more jobs are created to increase income for labourers, and poverty is reduced while also enriching people's lives."

Sustainable Rural Development for the Poor Project (SRDP)

The chicken-raising cooperative group in Thanh Son 2 Hamlet is considered a pioneer in Quang Binh Province. The group has 14 members. Twelve of them are female, and all of the four founders are female. Previously, the members only raised chickens on a small scale for the needs of their small community. The price of a baby chicken is about VND 10,000(US$0.4)-VND 15,000 (US$0.6), and they are raised for three months, with the farmers earning a profit of VND 40,000 (US$1.7) – VND 50,000 (US$2.1) per chicken. If each family raises about 1,000 chickens per batch, given that none of the chickens carry any diseases, then profit would be about up to VND 50 million (US$2,138) per batch.

With over VND 400 million (US$17,107) in funding from the Sustainable Rural Development for the Poor Project (SRDP), the group has built 14 new breeding facilities. This provides significant support in raising large quantities of chickens. On average, the group's members raise three batches of chickens each year. Each batch has 3,000 chickens, which provides a total income of VND 380 million (US$16,252). Thanks to the income from large-scale chicken farming, the economic standing of the members within the group has seen significant improvement. To date, the group's three near-poor households have been improved, and two out of its five poor households have escaped from poverty. The group has come into full operation, and members have completely changed their mindsets to drive chicken farming towards more modern, stable production via collaboration with other businesses. By the end of 2017, the group had enrolled 20 new members and increased the scale of breeding to increase their ability to supply highland chickens to the market.

NEW COOPERATIVE MODEL BOOSTS HOUSEHOLD ECONOMIES

From nothing to brand excellence - how one woman's business has mushroomed.

Established in March 2016, the Tuan Linh Cooperative (Loc Son Commune, Bo Trach District, Quang Binh Province) with its 27 households has become one of the leading groups in mushroom growing in Bo Trach district. The group can produce mushrooms on a large scale – over 500,000 mushroom packs of different varieties are made each year, providing about 102 tons of high-quality mushrooms to the market. This has resulted in sustainable income for the cooperative and its member households.

Destined to follow this career

Ngo Thi Kim Lien came to learn about mushrooms by chance. About 10 years ago, when her father-in-law was suffering from lymphoma, a neighbour told them about the lingzhi mushroom drink, a type of fungus which the neighbour said could help cure the disease. To provide all the mushrooms they needed for the father's health and for the family, Ngo and her husband, Nguyen Quoc Huong, started planting mushrooms at their home. Growing mushrooms soon became a small family business with three or four workers.

Since starting from nothing but sheer determination, Ngo and her spouse have made a difference for themselves and their community. The founders of the cooperative did not stop at researching mushrooms through books, television and the Internet. They dug deeper to learn from existing models from other regions to find out more about mushroom-farming procedures and techniques.

"After having learned about the techniques and processes," Ngo recalled, "my family and I started growing mushrooms using our 100

square-metre farming site. At first we only grew lingzhi mushrooms, but after seeing this type of mushroom take off in sales, I invested in building more shelters, workshops and facilities to produce other varieties such as oyster mushrooms, paddy straw mushrooms and wood-ear mushrooms."

According to Ngo, the most difficult barrier when she was first starting was the investment cost. She and her husband had to mortgage their land to raise the necessary funds for the expansion of their facilities, equipment and the installation of watering and cooling systems. But with determination and non-stop hard work to improve production, the family managed to become established. When most needed, their initiative also received timely and valuable support from the Sustainable Rural Development for the Poor Project in Quang Binh (SRDP), as well as the Quang Binh Cooperative Alliance.

Sharing the success

Having started seeing success with their own mushroom growing, the couple decided to establish a cooperative group to share their experiences and replicate the model in the area. In March 2016, they founded the Tuan Linh Clean Mushroom Production Cooperative with Ngo as its operations manager. The cooperative produced different types of mushrooms and started selling mushroom-growing kits to groups of farmers to enable low-income households to earn extra income. It managed to attract a lot of members.

At the beginning of 2017, they received an investment of VND1.9 billion (about US$85,000) from the SRDP. Their production area expanded and revenues more than doubled.

"We used the resources to train more staff with new techniques, and to acquire better technology, machines and infrastructure. Being a model for public-private partnership, our cooperative has worked with 15 farmers, groups to increase our supply," Ngo said.

From 100 square metres of land, the cooperative has now expanded its area to more than 8,700 square metres for growing lingzhi, paddy straw, oyster and wood-ear mushrooms. After a period of searching and experimenting, the cooperative has succeeded in producing two new varieties – the Kim Phuc mushroom and the Yellow Emperor mushroom – which yield twice as much value as other common mushrooms.

In 2016, the cooperative sold about 500,000 bags of mushrooms of different kinds, totalling more than 100 tons. The cooperative's revenue is estimated at about VND 7.1 billion. The income of key cooperative members has reached VND 50 million (US$2,138) per person per year.

The cooperative is currently collaborating with 15 other cooperative groups in the province to generate jobs for more than 300 employees, 66 of whom are categorized as poor and 128 of whom are in the near-poor category. Moreover, 95 per cent of its employees are women and all the production leaders are also female.

"The objective and development strategy of the cooperative has always been to create favourable conditions for the members to assist each other in production and business by reorganizing the production scale to follow the requirements of the Ministry of Science and Technology," Nguyen said. "The cooperative group also monitors product quality with traceable and trustable addresses and keeps collaboration between groups strong."

To sustain the brand in the market, cooperative group needs to invest more in quality. In addition, the group needs to control the product sourcing of their mushroom varieties to secure their production line. Ngo stressed: "The goal of the cooperative over the next five years is to increase production from 500,000 to 700,000 bags. Our dream is to have a visible brand for Tuan Linh mushrooms in both traditional markets and supermarket chains." In 2018, the cooperative group was honoured to receive the "2018 Excellent Brand" award for Quang Binh.

Tuan Linh mushrooms are already present in most of the markets in Quang Binh, and the brand has expanded to neighbouring areas and to large cities such as Hue, Da Nang, Hanoi and Ho Chi Minh City. Tuan Linh cooperative members are striving hard to ensure their products reach retail outlets across the country.

DIVERSITY OF LIVELIHOODS – THE DETERMINATION TO ESCAPE POVERTY

One enterprising family is raising goats to build a better future.

Situated between the Tien and Hau branches of the Mekong River, Tra Vinh Province is surrounded by a system of rivers and streams with alluvial helping to form a diverse and fertile ecosystem. However, these geographical advantages also pose a major challenge for this small province due to the increasing complexity of the impacts of climate change, such as salinity intrusion into the land, reduced freshwater levels and a lack of water for cultivation. IFAD invests in Tra Vinh through the Project for Adaptation to Climate Change in the Mekong Delta in Tra Vinh (AMD Tra Vinh) with the goal of reaching 15,000 poor and near-poor households in 30 communes to improve their adaptation ability and improve their livelihoods in the fast changing environment. The total budget of the project is US$25 million, including an IFAD loan of over US$11 million and a grant of US$6 million.

A dream of overcoming poverty

Long Vinh, which is isolated by a canal, is the most remote commune of the province. Nguyen Thi Ut lives in Vung Tau Hamlet, Long Vinh Commune, with her husband, Nguyen Van Hieu, and their two children).

Nguyen harvests only a few fish per day. Catches of shrimp, crab and fish have been decreasing because the water level is falling. Although he goes fishing twice a day, there is not enough to eat.

In 2008, Nguyen moved to her husband's hamlet. In 2009, their parents let them have 60 square metres of land. The couple set up a small thatched house. Their income, which was from fishing and seasonal labour, was insecure and unstable. Nguyen did the housework and took care of their two young children. Her family was classified as a poor household in the community. However, finding out that some households in the hamlet were raising goats, she dreamed of raising two goats to earn more income.

The "miracle" is real

Seeing the difficulties of her family, the head of the village suggested that she should approach the Climate Change

Adaptation Fund sponsored by AMD Tra Vinh. With the help of the project, and far exceeding her expectations, in 2016, she received an investment of over VND 29 million (US$1,240) to purchase four female goats. Being a poor household, in order to pay back loans from the project, she borrowed over VND 9 million (US$385) from her family. From 2016 until now, she has been able to pay this back. Everything about goat breeding was new to her and her husband. However, with their willingness to learn and with the support of the project, by December 2016, their goats had produced eight kids. The income from mother goats and goat dung has reached nearly VND 70 million (US$2,993), with a net profit of over 10 million (US$427).

Nguyen has continued to operate efficiently. She said: “There are over 13 big and small goats in the family, including a male goat bought by the family to breed. I do not remember how many goats have been sold, but from the time of breeding till now, we have sold over 20 goats including baby goats, with a profit of over VND 34 million (US$1,454). Due to stable output, with selling price ranges from VND 80,000 (US$3.4) to VND 90,000 (US$3.8) per kilogram, we feel secure to continue. Previously when we did not raise goats, the income was not stable, ranging from VND 2 million (US$85) to VND 3 million (US$128) per month, but now the average income is over VND 4 million (US$171) monthly.”

Raising goats almost became a passion for the couple. From the basic knowledge they were equipped with, they also learned by themselves, and applied more techniques. Because of their strong interest in breeding techniques, their goats develop very well and the price is stable.

Nguyen said: “Thanks to goat raising, our family has more income to repair the house and go to the city for medical examinations for the children. This new house was built three months ago on the land of the old one.”

Livelihood diversification

Thanks to the diversification of livelihoods, the lives of Nguyen and her husband have improved, and they have moved from being classed as a poor household to a near-poor one. They now have a television and a motorcycle, which helps them move around. “Part of the money to buy the bike is from our savings, part is from family borrowing, but with a steady source of income, we will try to pay it off in the shortest time,” Nguyen said.

Instead of having to rely solely on one source of income, now she can take care of her children, do housework and still contribute to the family’s income by feeding the goats. Nguyen continued: “Fishing does not bring the benefits like before, but it still brings some source of food daily with less cost; the more I harvest the more income I gain.” He still fishes twice a day, and the rest of the time he helps his wife take care of the goats.

Duong Le An Khang, Vice Chair of the Communal Farmers Association, commented that “recently in the area, there have been many farmers raising goats, and there are both successful cases and failures. I think the most important factors are the breed selection and the caring. The family of Nguyen is a successful example because they combine variation of livelihoods that helps increase the income of the household. The Nguyen family is also hard-working – exploring and learning to improve the quality of breeding. With this positive development, the family will be able to escape poverty”.

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