

STORIES

from the

Field

Women Working Towards A Non-Toxic Environment



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TOWARDS A NON-TOXIC SOUTHEAST ASIA

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Stories from the Field:
Women Working Towards a Non-toxic Environment

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Foreword

This booklet contains a collection of stories of 25 women from five countries who are involved in an inspiring, ongoing campaign to eliminate use of chemical pesticides and promote agroecology in the Mekong Region.

These women are part of the programme Towards a Non-toxic South-East Asia, a programme aiming to reduce health and environmental risks from chemicals by monitoring, regulating and managing agricultural, industrial and consumer chemicals. Partners in this initiative are the Swedish Chemicals Agency (KemI), Food and Agriculture Organization of the United Nations (FAO), Pesticide Action Network Asia and the Pacific (PAN AP) and The Field Alliance (TFA).

The stories in this booklet highlight how women were influenced by the work of these dedicated organizations and how various activities and support resulted in mobilization of communities to start working for improved livelihoods, through reduction of pesticides use and shift to agro-ecology.

This booklet aims to provide positive examples that women and men, communities and organizations across the region can learn from, be inspired by and hopefully develop further.

We also hope that policymakers can use this booklet to be informed about the situation of women in agriculture and how they are exposed to pesticides, and be guided in their work towards an agricultural model that is safer and more sustainable, particularly for women and their families.

Jenny Rönngren
Adviser/Programme manager
International Unit, Swedish Chemicals Agency



The often unseen but disastrous consequences of chemical-intensive food and agricultural production are felt most by half of the world's food producers and rural population: women.

On the average, women make up about 43 percent of the agricultural labour force in developing countries, according to the Food and Agriculture Organization (FAO). Women are involved in all stages of food production—everything from seed collection, land preparation, fertilizer and pesticides application, weeding, harvesting and storage, food processing, and livestock rearing. In addition, they are also responsible for most household and child-rearing activities.

Rural women's livelihood strategies are often diverse and complex. Increasingly, however, their families and livelihoods are put at risk because of disruptive effects of pesticides on their health and environment.

Worldwide, chemicals production and use in agriculture are seen to increase. Forecasts predict that global chemical sales will grow by about 3% per year until 2050, according to the United Nations Environment Programme. A major part of that increase will take place in Asia and other developing countries.

Weak regulatory control by governments, lack of education and awareness, lack of access to social services, and over-all poverty and disempowerment

all contribute to the increased vulnerability of Asian women with regards to chemicals exposure, which have become a significant part of their daily lives.

Women are exposed to pesticides while mixing, applying or spraying pesticides; while working in the sprayed fields; while cleaning spray tanks; and even when laundering clothes used during pesticide application. They buy pesticides and store them in their homes.

To give us a glimpse of the entire picture, 1.3 million lives and 43 million disability-adjusted life-years were lost in 2012 due to exposures to selected chemicals, according to the World Health Organization. However, the calamitous effects of pesticides use and exposure, specifically on Asian women, are often left undocumented and without proper intervention.

Towards a Non-toxic Environment in South-East Asia is a project coordinated by the Swedish Chemicals Agency (KemI), and implemented with the Pesticide Action Network in Asia and the Pacific (PANAP), FAO Regional Office for Asia and the Pacific, and The Field Alliance (TFA). It includes in its aims the strengthening of women's capacity in pesticide risk reduction and agro-biodiversity.

“EVEN AS THE COMMUNITY UNDOUBTEDLY FEELS THE EFFECTS OF PESTICIDES, THERE IS AN OVERWHELMING LACK OF KNOWLEDGE ON THESE CHEMICALS, AS WELL AS ON VIABLE ALTERNATIVES.”

The project recognises that women farmers and farmworkers often do not have equal access to education, training, information, and other forms of support in tackling pesticides-related problems, and in shifting to ecologically sound agricultural practices. Thus, throughout its implementation—consisting of Community-based Pesticide Action Monitoring (CPAM), Farmer Field Schools (FFS) – Integrated Pest Management (IPM)/Pesticide Risk Reduction (PRR) trainings, Rural

Ecology and Agricultural Livelihoods (REAL) programs, policy advocacy, research and outreach, among others—there has been an active effort to address this gender gap.

The equal and meaningful participation of women in all activities conducted by partner organisations was ensured. This is in recognition of women’s marginalisation and double burden, made even more acute by the effects of uncontrolled use of toxic chemicals on their livelihood, health, environment, family and community.

This gender-based approach to grassroots-empowered pesticide risk reduction proves to be an astounding success. The results are to be seen and appreciated in this collection of stories from 25 women farmers in five countries where the project was implemented: Laos, Cambodia, Vietnam, Thailand and China.

Through stories told by these women, the impacts of pesticides use on communities are shown very clearly. For instance, Pov Sophy from Kraing Khmer Village in Cambodia said that many farmers buy pesticides even though they can barely afford to. Many also have no idea which pesticides to buy. Farmers have many illnesses—such as itchy skin, headaches, dizziness, and stomach pain—that they think are related to chemicals use. Le Thi Hong of Vietnam describes that in her village Xuan An, miscarriage, stillbirths, and premature births have increased in recent years. “Farmers feel very afraid while spraying pesticides,” she said. Even as the community undoubtedly feels the effects of pesticides, there is an overwhelming lack of knowledge on these chemicals, as well as on viable alternatives.

“THESE STORIES SHOW THAT CHANGE IN BEHAVIOUR CAN BE INSPIRED EVEN BY JUST ONE POSITIVE EXPERIENCE OR EXAMPLE THAT FARMERS CAN WITNESS FOR THEMSELVES.”

The stories also contain testimonies on how overuse of pesticides result

to more pest and plant disease outbreaks, resulting to lower productivity and loss of income. Many women mentioned how they are increasingly handling and applying pesticides, as their husbands migrate to the cities to look for jobs due to insufficient income.

The immediate impact of awareness-raising on pesticide risk reduction on women include less pesticide use, more careful selection of products, use of alternatives to chemicals, e.g., good agricultural practices and biological control agents, the use of Personal Protective Equipment, and extra caution when handling and storing pesticides, and proper disposal of pesticide containers. It also fuelled most of their drive to inform other community members, including their husbands, on the harmful effects of pesticides.

Significantly, these stories resonate with how pesticides use is most successfully reduced or even eliminated when accompanied with trainings and educational campaigns that introduce ecological agriculture practices, such as Farmer Field Schools-IPM and System of Rice Intensification. Women farmers found most useful trainings that teach them how to make botanical pesticides and natural fertilizers, do composting, crop rotation, red-worm farming, and other techniques that reduce, if not totally rid them of dependence on chemical pesticides and fertilizers. As the women practiced and improved upon these techniques, the results only became better and more impressive, attracting the interest of more members of the community.

In transitioning from chemical-intensive to IPM or even organic production, farmers in the beginning tended to be discouraged by the results. “Farmers are unable or unwilling to focus on environmental or health issues so long as they are experiencing poverty. They are less willing to experiment, because they are afraid of risking yield,” said Khonsawan of Nongno Village in Laos. But these stories also show that change in behaviour can be inspired even by just one positive experience or example that farmers can witness for themselves.

As techniques and environmental health improve, so does the quality

and quantity of their produce. These stories show that the advance of ecological agriculture practices are always accompanied with increase in income, as women begin to enjoy savings from not buying chemical pesticides and fertilizers.

Furthermore, organic produce are able to fetch higher prices at the market. In the laudable efforts of SAEDA (Sustainable Agriculture & Environment Development Association) in Peak District, Laos, for instance, trainings

*“THEY GAIN
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led to the creation of the Organic Farmers Association. The association helps women market their produce, and additionally leads to increased consumer awareness and support for agro-biodiversity.

Government or institutional support is seen as crucial by women farmers, especially in the areas of access to water supply and market access for organic produce. Many women have also recognised that in order

for alternative pest management to be successful and viable, it has to be applied in large-scale. As Nguyet from the Hai Phu Commune in Vietnam said, “If I do not apply pesticides for my field while all other neighbours’ fields are sprayed with pesticides, there is no use at all.”

Still, even with the lack of strong government or institutional support, women who have been trained are determined to spread the knowledge and sustain initiatives through community organisations. “It is very important to become a practitioner yourself, because authority and the power to persuade can only come from actually doing what one preaches,” said Tran Thi Len from the Hai Son Commune in Vietnam.

They gain empowerment not just among their community but also inside their homes. Not a few women told of how their husbands were initially obstructive of their newfound leadership roles, but eventually became highly supportive, especially when their health improved and their family income increased.

On the whole, these stories reflect the happier, healthier, and more enriching lives women lead once unshackled from dependence on pesticides and empowered with knowledge, experience and options with regards to managing their lands and livelihoods. They show the great ability of women in mobilising their families and communities towards a toxic-free environment. With the knowledge of this potential, as well as of the persistent problems and gaps that still need to be addressed, it is now up to other stakeholders to plan future interventions and act decisively to encourage the growth of these seeds that have been planted on fertile ground.



Tools for Empowerment

CPAM: Creating Rural Women Leaders and Global Action

Community Pesticide Action Monitoring or CPAM is a process of participatory action research used by Pesticide Action Network Asia and the Pacific (PANAP) and its partners that helps communities document the adverse impacts of pesticides, raises awareness, and motivates them to adopt ecologically sound and sustainable agricultural practices. It plays a strategic role in influencing global action, through better pesticide regulation and government implementation of international conventions on pesticides. Significantly too, CPAM has become a fertile ground for the development and emergence of rural women leaders.

For the past 10 years, learning exchanges and capacity-building workshops have been organised and CPAM surveys carried out by PANAP in countries including Cambodia, China, India, Indonesia, Korea, Malaysia, Mongolia, the Philippines, Pakistan, Sri Lanka and Vietnam. The results of these surveys were compiled and discussed at national and international meetings, amplifying the need for urgent action.

Women-led grassroots campaigns and international-level advocacy inspired by CPAM has led to many important gains. This includes the stoppage of the use of hazardous pesticides on the ground, such as the use of paraquat and monocrotophos by a plantation operator in Malaysia and Indonesia, mainly due to actions of women agricultural workers organised by Tenaganita. Gains also include the local and national bans of specific pesticides, such as banning the use of endosulfan first in Kerala, then in other parts of India, with women leaders in the community of Kasargod playing a key role.

With the efforts of Thanal supported by PANAP and others in linking community-led research and action to policy advocacy, endosulfan is

now listed in the Stockholm and Rotterdam Conventions. PANAP also contributed in the listing of carbofuran and carbosulfan that advanced to the next level under the Rotterdam Convention.

PANAP has further expanded CPAM surveys at the local communes and villages in China, Cambodia, Laos and Vietnam, conducted by more than 200 key farmers and local facilitators. To make the process easier and accessible to more communities, PANAP is now developing a CPAM mobile application to monitor the impacts of pesticides in the region. Through the app, monitoring results would be available in real time, be translated in local languages, and be easily verifiable. The app covers a variety of survey tools including a list of pesticides and how they are being used; health impact assessment; and how pesticides are being sold and advertised.

Through CPAM and major campaigns like No Pesticide Use Week (NPUW) and Protect Our Children from Toxic Pesticides, there has been increased awareness and enhanced capacity in farming communities, schools, institutions and consumers to reduce the risk associated with pesticide use and enhanced use of alternatives. The NPUW and Protect Our Children from Toxic Pesticides campaigns have been launched and organised in 10 different countries, and has involved around 83,000 people. Around 50,000 people, school children and teachers alone have been made aware of the impacts of pesticides on children.

Furthermore, PANAP and its partners are providing support to communities to grow food without or with less chemicals, with the active and crucial participation of women. In recent efforts, a total of 43,200 farmers were trained in ecological animal raising, eco-pesticides, IPM, biological fertilizers and composting.

The experience of PANAP shows that pesticides monitoring, community mobilising, awareness-raising and exchange of knowledge creates newly empowered, emergent rural women leaders that can create impact from the community up to the global level.

REAL Education Program

Rural Ecology and Agricultural Livelihoods (REAL) Education is an integrated learning approach that allows school children to gain first-hand knowledge of agriculture and ecological systems and develop critical thinking skills with regard to environmental, health, and social or cultural issues. The primary goals of the REAL curriculum is to educate students - many of whose family members are rice or vegetable farmers - on safe farming practices and to provide practical vocational training for students who may choose to pursue future employment in the agriculture sector.

Students participating in REAL programs spend at least one day per week in the fields - planting and harvesting rice or other vegetables and collecting soil and insect samples. Students also regularly interview local farmers and business owners and conduct environmental and health surveys. Back in the classroom, collected data and community feedback is evaluated and students are able to extract the most significant and intriguing topics to investigate further. Students then work to develop specific projects and action plans relating to their chosen subjects of inquiry.

The details of how and where REAL programs are implemented varies depending on location, budget, and community needs. Partners of The Field Alliance (TFA) first must identify communities and schools in need of educational support.

After these communities/schools have been identified, a site visit is conducted and surveys are taken to document the status of the community as it pertains to pesticide usage, environmental status, resources available, economic stability, and expressed interest. Once need is confirmed, meetings are held with representatives of TFA, partner organizations, and community leaders in order to determine what format and subject matter is most appropriate for the participating schools and to develop an action plan including a timeline.

The Field Alliance will then arrange for a Training of Trainers/Teachers (ToT) to be conducted by TFA representative. The goal of these trainings

is to provide teachers, school administrators, and other community members with the knowledge and experience necessary to effectively organize and implement REAL programs in schools. Once the ToT's have concluded, it is then largely the responsibility of the partner organization and individual sites to apply the curriculum and schedule programs for student and community participation. The Field Alliance supports program extension through financial allocations to partner organizations, as well as by providing continued guidance and technical support as needed.

IPM Farmer Field Schools¹

The Farmer Field School evolved from the concept that farmers learn optimally from field observation and experimentation. It was developed to help farmers tailor their Integrated Pest Management (IPM) practices to diverse and dynamic ecological conditions.

In regular sessions from planting till harvest, groups of neighboring farmers observe and discuss dynamics of the crop's ecosystem. Simple experimentation helps farmers further improve their understanding of functional relationships (e.g. pests-natural enemy population dynamics and crop damage-yield relationships). In this cyclical learning process, farmers develop the expertise that enables them to make their own crop management decisions. Special group activities encourage learning from peers, and strengthen communicative skills and group building.

¹ <http://www.fao.org/docrep/006/ad487e/ad487e02.htm>

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Women Working Towards



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A Non-Toxic Environment



Laos



SAEDA's intervention: A success story



SAEDA (Sustainable Agriculture & Environment Development Association) is a non-government organisation in Laos that supports vulnerable communities by promoting sustainable agriculture practices.

SAEDA's intervention in Peak District, Xien Khuang Province is a success story that shows how consistent training efforts can pay off and give birth to another organisation that the people themselves established and sustain.

It started in 2008, when SAEDA spearheaded the No Pesticide Use Week (NPUW) together with the District-level Ministry of Agriculture and Forestry (DAFO) of Peak District. The commemoration consisted mostly of awareness-raising activities.

In 2009, SAEDA started training farmers on agroecology. SAEDA's strategy is to lay down the fundamentals of agroecology, and slowly retreat once farmers are more independent and empowered.

Throughout the next seven years, SAEDA continued to organise workshops, trainings, and other activities for NPUW and the Protect Our Children from Toxic Pesticides Campaign. Because of the series of activities, an organisation Organic Farmers Association (OFA) was formed.

OFA has 715 women and 15 men as members. These women sell their produce in the local market that is supported by DAFO. DAFO is also part of the organic certification process, and helps OFA members on various technical skills.

OFA would now like to become a cooperative, and expand their market to attract new buyers, such as hotels and restaurants.

SAEDA's project has now expanded to four other districts, including Kham, Phaxay, Khoun and Phoukowd.



Testimonial

Organic farming has been a success

Bouchan Huengvilay

*Peak District,
Xien Khuang Province, Laos*

I have observed that over the years, communities that have used a lot of pesticides have also reported a lot of illnesses and deaths of livestock.

For instance, I know of a 12-year girl from a village close to the Northern part of Xien Khuang, where they plant maize and spray pesticides. The girl had been swimming and playing in the river that was contaminated by pesticides from the maize plantations. She developed lots of rashes that was difficult to cure, and her parents had to seek medical attention in the main city.

My own neighbour who had been spraying pesticides had thyroid problems and developed hand tremors. Her husband experienced the same problems, and had to have his thyroid removed.

I also saw that animals that feed on vegetables sprayed with pesticides died and got ill. In other communities using pesticides, there weren't much fish and other aquatic animals like crabs.

So after hearing many cases like this, I felt it was useful to be part of a network of organic farmers. Ever since I started farming, I myself have not used pesticides in my farm. I tend to my vegetables, and water them from my pond. I also save seeds.



Bouchan's organic pesticide made from chilies, garlic, gallanga and various other plants.

We started in 2009, with SAEDA's intervention and training on methods based on agroecology. The project promoted local seed selection, production and conservation.

Organic farming has been a success. Previously, we used to make about 5 to 6 million Lao Kip (LAK) a year (USD 720 to 745 at 1 USD= 8055 LAK). Now we make about 18 to 48 million LAK (USD 2235 to 5959) a year selling our vegetables. That is many times higher than before!

First of all, selecting good seeds reduces production cost. I don't have to use chemical fertilizers. Secondly, it makes the plants strong and resistant to pests and diseases.

We have better health and the environment is healthier. More people are aware of the benefits of organic farming, and of the adverse impacts of chemicals on health. Now, even restaurant owners have placed orders with us.

As president of the Organic Farmers' Association (OFA), even my husband is very proud of my accomplishments. I'm glad to lead this network of farmers who are mostly women. Women do have more tasks to complete than men. That is why it is important to divide our tasks in the farm and train other women in techniques based on agroecology.

I felt even more encouraged when the District Agriculture and Forestry Office gave us a free venue to sell our vegetables. Now we don't have to pay rent for our vegetable stalls! In the future, I would like OFA to be registered as a farmer's cooperative, because for now it is still an association.

Right now, I'm still learning about how to market our vegetables and how to grow our membership. I hope to expand our network of farmers even more.



Challenges of a single mother

Layer Lor

*Peak District,
Xien Khuang Province, Laos*

She wakes up early in the morning, and starts feeding her chickens, peahen, and ducks. In her pond—created by a bomb explosion when America bombed Northern Laos during the war—four kinds of traditional fish live. Lots of insects, like butterflies and bees, fly and buzz around the farm grown with various types of organic vegetables.

Indeed, life thrives in the farm of 34-year old Layer Lor, where she lives happily with her 4-year-old son. She is part of the Organic Farmer's Association (OFA). After an initial training by SAEDA, she started farming on a small plot of land that was sufficient to feed her son and herself.

Layer Lor is used to working hard. Before becoming an organic farmer, she was selling various household items, rice, and meat in the local market. She was also making traditional embroidery of Hmong, the ethnic group where she belongs. But both these jobs did not prove to be as profitable as organic farming.

“In 2009 I was introduced to organic farming by my neighbour, a member of OFA. Somehow, organic farming just felt right. At that moment, I decided to attend the first workshop on organic farming organised by SAEDA,” she said.

Slowly, she grew more confident with her farming. It took over seven years, but she finally produced more than they could consume, and started selling.

Currently, Layer Lor supplies vegetables to the local organic market twice a week. Growing ten types of vegetables such as carrots, lettuce, cabbage, and traditional herbs and gourds, she is able to provide at least 20 to 50 kilograms of vegetables to the local market.



As a single mother, Layer Lor has to do all the work in the farm alone. She has to tend to her garden, feed her animals and fish, raise her ducks and chickens, harvest the vegetables and market them—all by herself.

Luckily, she has the support of other farmers in the OFA network and the Provincial Agriculture and Forest Office (PAFO) officer, Sidavanh, who helps her with the marketing and provides technical support.

The weather can also be challenging. During the dry season, she needs more water for her vegetables; while in the rainy season, the soil gets muddy, making difficult to harvest. She also needs to change her vegetable garden's roof every three months because it gets destroyed by the rain.

The organic market where she sells her vegetables recently transferred to a new venue that is more spacious and permanent. The market space is supported by the District Governor, Provincial Governor and the PAFO.

Layer Lor has grown very confident about her farming skills. She is very happy that organic farming has been profitable enough to support herself and her son.

In the future, she hopes to build a new house beside the fishpond. She is also currently saving enough money to replace her vegetable garden's cover.



In better health

Kham Kheng

*Peak District,
Xien Khuang Province, Laos*

Kham Kheng has been farming since she was 12 years old, and been using pesticides since she was 18.

“The more I sprayed, the more pest outbreaks I had to deal with. In addition, I had many health problems. My throat always felt dry. No amount of water could quench the thirst. Also, I constantly had headaches and felt dizzy, like taking a ride in a bumpy car. I used to get so tired after spraying that I had to rest six to eight hours a day,” she related.

Now 46 years old, she stopped using pesticides 10 years ago. “I am much healthier now. I can work for longer hours, despite being older,” she said.

Before, she used to spray chemical pesticides three times a week. Now, she only needs to spray every seven to ten days, using botanical pesticides from a concoction of garlic, ginger, galangal, lime zest, onions and chilies.

She has the trainings with SAEDA to thank. Since 2009, she has been learning about the hazardous impact of pesticides on human health. At the same time, she learned how to make compost, bio-fertilizers, and botanical pesticides. She learned about crop rotation, mushroom rearing, and organic vegetables standards.



Kham joined the Organic Farming Association (OFA). She sells her vegetables and fruits twice a week in the organic market with OFA. She used to make 30,000 LAK (USD 3.72) for 12 kgs of vegetables. Now, she makes about 80,000 LAK (USD 9.93) for the same amount. “I have more profits because I am

also able to use resources for my farm, instead of purchasing chemical pesticides and fertilizers,” Kham shared.

Organic farming has also made her feel closer to her family. “Organic farming is more labour intensive. But my husband, children, and younger sister take turns to help around the farm. As a family, we rotate and carefully plan our chores and divide the tasks among ourselves,” she proudly said.

“My neighbours can’t really believe that I am able to grow vegetables without pesticides,” Kham said. She added that she has been selected as a trainer, and is eager to share information with other farmers, especially in marketing their produce.

In general, Kham has better health and energy levels. There is a lot more diversity in her farm, which is teeming with crabs, frogs and fish. The only thing she is concerned about are the changes in the climate, particularly drought.

“I hope that I will continue to have diverse vegetables in my farm. I would like more consumers to buy my vegetables. I hope to sell them to other provinces, and other countries as well,” Kham concluded, with very high hopes for the future.



Motivated by organic producers

Sidavanh Ounevilay

*Peak District,
Xien Khuang Province, Laos*

Sidavanh Ounevilay enjoys helping farmers, especially women. With an educational background in agricultural studies, she is currently the assistant coordinator of the Commercial Organic Farming Institutionalization project at the District Agriculture and Forestry Office (DAFO).

Sidavanh is always concerned about the long-term impacts of pesticides on human health. She inspects pesticide shops on a regular basis. And since 2009, she has been organising the No Pesticide Use Week.

An integral part of her work is giving technical support for organic vegetables and rice farmers. “We at DAFO focus on hands-on learning in the farm, instead of training through theoretical methods. We facilitate learning exchanges among farmers to learn from other key farmers,” she explained.

Since 2009, PANAP’s partner SAEDA has trained her on several agroecology-based techniques, including methods on making vegetable beds, fertilizers, field maintenance, and harvesting. “The techniques are simple, are low in investments, and are effective. There is also an ongoing demand for organic food and we are receiving positive responses from consumers,” Sidavanh said.

The project with SAEDA has helped farmers set up their own organic systems that meet the government's organic standards. Thus, they are now certified as organic producers.

Sidavanh shared that she is very proud of the women in the Organic Farmers Association for setting up their market. This is what motivates her the most. "I used to visit them at least once a week in the beginning... but after a few years, farmers are more confident about their skills and we don't have to train them as much," she said.

While she can't travel as much as men in rural places, Sidavanh is nonetheless committed to the job. She noted an increase in the use of pesticides in banana plantations, and suggests more awareness-raising and research on the impacts of pesticides in those areas.



Rural Development Sole Rds.



Rural Development Sole Rds. (formerly Community Development and Environmental Conservation Foundation)

Laos is a developing country and as a result, natural habitats are being altered or destroyed to make way for industrialization. Land is becoming harder to attain and hold on to and younger generations are less interested in working as farmers, instead, seeking technical employment in urban areas and putting their families and the future of agriculture at great risk.

The Field Alliance piloted programs in Laos in 2003, coordinating with Bandith Keothongkham of Community Development and Environmental Conservation Foundation (CDECF) for programs focusing on Agrobiodiversity and Pesticide Impact Assessment. The Laos FAO Agrobiodiversity Programme (ABP) requested assistance from TFA to train sixty governmental officials and farmers during two-month courses in Phonexay District of Luang Prabang and the Phukout District of Xiengkhuang Province.

In 2014-2015, gender specific action plans were developed relating to food safety and diversifying income sources. As an example, twenty women who were trained in weaving and cricket harvesting were able to earn an additional 500,000– 1,500,000 Kip per person per month. REAL activities were also implemented with 2,468 students and teachers from 24 schools from Vientiane, Luang Prabang, and Xieng Khuang Provinces. Agrobiodiversity conservation projects involving aquatic and terrestrial animals, plants, and herbal species were implemented in seventeen villages with 593 participating farmers.

Initially piloted within three schools, TFA now proudly supports sixty-six separate school and community programs in Lao PDR. In 2016, TFA formed an official partnership with Rural Development Sole Rds, an affiliate of the former CDECF and will continue all projects in coordination with this new organization.



Transitioning to organic needs greater support

Khay

*Nongno Village,
Vientiane Province,
Xaythany District, Laos*

Khay stopped schooling at Grade 4 to help her family in agricultural production. Now 42 years old and with a family of her own, she grows chili, eggplant, and papaya together with her husband. She helps her husband in cleaning the land, planting, and weeding, and selling their products to merchants.

Khay worries about her husband's health, who mainly sprays pesticides. "Men face more problems because they spray the pesticides directly. Now, both men and women are uneducated on the effects of pesticides, but we know enough to realise that we need to take action against the potential harm," she said.

While her husband doesn't display any health problems for now, she is afraid of those he might have in the future. She wants to learn more, so that she can pass the information to her husband, and also learn about the indirect impacts of pesticides to her children and herself.

Khay's organisation, the Village Women's Union, has participated in trainings through The Field Alliance's REAL (Rural Ecology and Agricultural Livelihoods) Program since 2010. While not a formal union, the group is a space where women discuss relevant issues relating to farming, finances, and family. "It is often a way of building morale and contributing to a sense of community," Khay said.

Through the union, the women learned how to make bio-pesticides. By reducing their dependence on chemical pesticides, they were able to save money and build new houses.

However, many farmers still buy chemical fertilizers. Often, the organic vegetables do not compare in size to those grown with chemical fertilizers and the yield is not high enough. Thus, the techniques that women have learned so far have only been applied to home gardens.

Khay wants to stop using pesticides altogether. However, she doesn't want to take the risk of having lesser yield. She thinks that to continue the work that they have done, more support is needed. "Yes, absolutely, we need more trainings and support!" she emphatically said.





Desiring to stop pesticides use

Khonsawan

*Nongno Village,
Vientiane Province,
Xaythany District, Laos*

Khonsawan, 38, has three children. She and her husband grow chilli, papaya, vegetable, corn, pumpkin, and orange.

A member of the Village Women's Union for the past eight years, she has also experimented on small-scale organic farming because of the trainings held by the Food and Agriculture Organization in the past. But she admits that large-scale changes have not yet occurred.

She explains that economic strain acts as the primary barrier. "Farmers are unable or unwilling to focus on environmental or health issues so long as they are experiencing poverty. They are less willing to experiment, especially on large-scale alternative agricultural practices, because they are afraid of risking yield and profit," she said.

Still, it is women who are most interested in trainings, especially in making bio-pesticides, home gardening, and in establishing savings groups.

In Khonsawan's community, both men and women are mostly uneducated on the effects of pesticides. But they know enough to realise they need to take action against the potential harm. As men move away from farms to find work in other sectors, it also becomes increasingly important for

women, who take over responsibilities in the farm, to be aware of the impacts of pesticides.

Sometimes, the Health Department comes to the village to test the women and children relating to pesticide exposure and their health. For reasons they don't know, men are not checked, even though many of them handle pesticides directly.

The desire to stop using pesticides altogether is high. But in order to do so, Khonsawan said that “additional trainings are needed to reinforce information and ensure farmers that they have technical support to transition to organic methods.”

Vietnam



CGFED and the Women's Pioneer Group



CGFED or Research Centre for Gender, Family and Environment in Development is one of three pioneering organisations that are involved in the campaign to eliminate highly hazardous pesticides in Vietnam. Since 2008, CGFED has undertaken many activities to raise community awareness about pesticides risk reduction and impacts of pesticides to human health through trainings, workshops, information communication, commemoration of the No Pesticide Use Week and the Protect Our Children from Toxic Pesticides Campaign.

Since 2013, CGFED has assisted rural women of Hai Hau district to build their livelihoods through organic farming, combining earthworm with zero-waste. This model has helped more than 100 rural women to increase their income by 30 to 50 percent. The model not only helps women to produce safe vegetables, it also contributes to environmental protection.

A total of 265 farmers (85% women) from Hai Hau have been trained over the past three years in CPAM or Community Pesticide Action Monitoring.

After the rural women's leadership training with PANAP, 30 women established the Women's Pioneer Group in 2013. The mission of the group is to stop pesticides use and promote organic agriculture at the community level. In Hai Hau district, women conducted their own CPAM study and advocated for vermi-composting and pesticide-free farming in a total of 546 villages in 35 communes.

Women trained on ecological methods now share their farming methods and products in organic markets in Hanoi, with the support of the District Level Women's Union.



Nguyet, the pioneer

Nguyen Thi Nguyet

*Village 10, Hai Phu commune,
Hai Hau district,
Nam Dinh province, Vietnam*

Nguyen Thi Nguyet was born in 1976, a year after the America-Vietnam war ended. Her mother was a primary school teacher; her father was a soldier. She dropped school when she was in Grade 9, thinking that she must stay at home to help her parents with housework and their domestic livelihood such as making white wine, raising pigs and rice farming.

At 22, she got married and had two children. She and her husband inherited around 1500 m² of farmland from their parents. She earns additional income by selling bamboo shoots and tea leaves in the village market. Every day, she cleans the house, prepares breakfast for the children, and goes to the market. Meanwhile, her husband prepares food for the pigs and goes to the fields.

It looks very peaceful in the village. However, the beautiful life that she is enjoying is not the full picture of her commune. The village has been disturbed by hidden things.

Hai Phu commune has 17 villages. The main livelihood of the people in village 10 is agriculture, mostly to provide food for themselves. However, people still overuse pesticides. According to a study by PANAP's partner CGFED, each year, at least six tons of pesticides are dumped on the rice fields in the district. And the consequences are very clear.

Nguyet shared that many villagers have cancer and other kinds of diseases. Villagers believe that these diseases come from the food that they are eating, and from the water running from the fields that are sprayed with pesticides.

Women are the most exposed to pesticides, since men are migrating to the city for jobs. The women are the main labourers in the application of pesticides at the fields. “It’s difficult,” Nguyet said, “If I do not apply pesticides for my field while all other neighbours’ fields are sprayed with pesticides, there is no use at all.”

Nguyet thinks that all villagers know more or less about the toxicity and harm of pesticides. However, it is not easy to change their behavior. There is a gap between knowledge, attitude and action.

Since 2014, Nguyet has been part of the Pioneer Women Group. Nguyet has learned a lot since joining it: knowledge on pesticides and how toxic they are; the techniques of raising pigs and red-worm; how to be self-resilient; and how to improve the market chain of organic products.

Her leadership skills have also improved. She was able to do things outside of her village, such as observe the organic practices of farmers’ groups in Ha Nam, Ninh Binh, Thanh Hoa provinces. She was able to sell her farm’s products in organic markets in Hanoi City. She also attended workshops and dialogues on bio-ecological agriculture.

She is now applying organic farming in her vegetable garden. She and her husband now raise red-worms. Red-worm is natural food in the closed food chain. The biomass from organic vegetable waste and pig or cow manure is converted into food for red-worms. The grown-up red-worms become the food for poultry and cattle. The sub-product from raising red-worms is used as fertilizer. Nguyet invested in a mini-food machine to make food from red-worm. However, she had to try and fail many times before she succeeded.

The next step was trying to convince others to follow her model—her mother was the first one to do so, followed by a woman whose husband

was suffering lung cancer. Villagers do not easily accept the new method. Nguyet gave her opinion as to why: “People don’t trust the products as many sellers in the market insist that their products are safe, even if they are poisonous. The second reason is the farmers have become lazy. It takes more time to prepare food for animals. It seems more ‘dirty’ when they have to do compost by themselves from cattle dung or biomass. The third reason is that they think only of the short-term benefit. They just want to see the money first and don’t think about the future expenses. And the last reason is habit. People are used to the big chicken (up to 4 kgs), or big wild goose, or pork without too much fat. In organic breeding, the chicken normally gets to 2 kgs after seven months at the most; whereas if the conventional method is applied, the chicken will get to 4 kgs after just four months.”

She said that habit is the most difficult to change: “In Vietnam, it is said that if we don’t eat (the toxic food), we die right away. If we eat, we die slowly. So people usually accept old habits based on the wrong perspective, which prevents them from taking action for change.”

Nguyet, however, is different from others. She is willing to take risks and encourage others to change their way of thinking. She takes every opportunity to talk about her model—in the village market, while gossiping with neighbors, and talking with the relatives. She repeats herself over and over. “I want to give more to the community, so that everyone will have safe food. And there is no fear of competition, because there aren’t too much organic products in the market,” she said.

Nguyet understands that if she is the only one who does organic farming, the effects will not be maximized. If she applies the natural method to prevent mosquitoes for example, while others do not, the mosquitoes will still be there. She also understands profoundly that what she is doing is for her children, for whom she wants to be a good example.

Nguyet has some suggestions to make the Pioneer Women Group more effective. She says that it is necessary for members to be together more often, to connect and discuss with one another more regularly. Their

spirits should be stirred up by more trainings and exchange visits, which should be practical, and serve as a venue for people to see directly how theory is applied to organic methods and products. “The people will follow the things that they witness, not just the things they just hear about,” Nguyet said.

She admits that it is still difficult to do organic farming in the rice fields in Vietnam. To be successful, farmers on lands that are geographically close should apply the same method together. She recommends for neighbouring farmers or relatives in each village to create their own group for organic farming, since it is something that a single farmer cannot do alone.

Nguyet still thinks that she is not contributing much to change the situation in her commune. But her “small action” has already led to the further action of other women, making her truly the pioneer. *(Written by Kao Thuy and Ngoc Pham)*





Len, the woman of courage

Tran Thi Len

*Hai Son commune,
Hai Hau district,
Nam Dinh province, Vietnam*

Tran Thi Len is the typical woman who belongs to the generation between old and young. Someone who is struggling between the new and the old values for her own identity.

At the age of 41, she holds many prestigious positions: president of the Commune Women's Union; member of the executive board of the Communal Trade Union; member of the standing committee of the Red Cross; and secretary of the Communal People Council. But she takes special pride in being the leader of the red-worm group in her commune. Trainings on red worm were conducted by PANAP's partner Sustainable Rural Development (SRD) and CGFED.

Hai Son is a lowland agricultural area. While most of the men become migrants after the harvest season, women stay at the villages to take care of the children and farm.

Len got married at 18 upon finishing high school. When her first child was only six months old, her husband worked in Germany, while she stayed at home raising her child and selling rice. But she also studied in the pharmacy school, and joined the activities of the commune. When

her husband returned, she was already taking many positions in the local government system. He opposed her, and wanted her to stay at home.

“My job is my choice, my role in society is important. I want to contribute, I want to reach my dream,” Len insisted. But her husband was slow to change his mind. “But the more he restrained me, the more I became determined and ready. My job is worth doing,” she said.

The former president of the women’s union at her commune was among those who encouraged her a lot. Len took part in the women’s union since year 2000 and became the president of the commune women’s union in 2008. In the trainings organized by the district women’s union, she found out that there is a gap in her knowledge on pesticides. She used to use pesticides for her cultivation but did not know how dangerous it was.

Now, she does everything to make her group members know about the toxicity of pesticides, and to change their practice. It started with small things. She grew organic vegetables in her garden. She learned how to argue with her husband, when he used the information about the failure of the red-worm model in other areas to discourage her. She kept trying.

At first, she raised 20 chickens. And then she raised wild geese. The quality of the chicken and goose was better than other products from the market, so she was able to sell them at a higher price. Until finally, her husband was convinced and helped to advertise their products.

She formed an organic farming group of 11 members in April 2015. This increased to 23 members by early 2016. The members are from nine villages of the commune, aging from 28 to 62 years old. All of them are now raising red-worm to use for their cultivation in the vegetable gardens and for poultry and cattles. One of them, the leader of village 8, decided to join the group because she used to get poisoned from food.

She organised many activities and got some other women to help her in preparing speeches to provide information, or facilitating discussion on pesticides and the alternatives. She said that it is more effective if these activities use artistic methods such as theater and music.

The group has regular meetings every month to discuss and share experiences. She has an interesting idea that she advocates to other group members: each family raises a pig on different months, one after each other, so that all families will have safe pork to eat every month.

She really wants to expand the group and wants to support newcomers in loan applications for the red-worm model. The goal is to register the group as a co-operative with a brand name, so that their products will be more trusted in the market. Now, the group is working with an organic enterprise in Hanoi City, to develop the local breeds of chicken or pigs.

“To make the products survive or be accepted in the big market, our group wants to be trained further in techniques that are applicable to us. For organic rice, for instance, it should be grown in one area where farmers have lands close to one another. There are some public lands rented out to farmers. If we have that land, we will do a pilot test for organic rice,” Len said.

She is proud of being good at public speaking and at persuading local officials. She also believes that it is very important to become a practitioner yourself, because authority and the power to persuade can only come from actually doing what one preaches. *(Written by Kao Thuy and Ngoc Pham)*





Lien, connecting people

Tran Thi Lien

*Hai Hau district,
Nam Dinh province, Vietnam*

As vice-president of the district women's union, Tran Thi Lien was tapped in 2008 by CGFED to take part in a research on pesticides. When Lien started interviewing retailers who were selling pesticides, she felt astonished at the big quantity of pesticides sold. She asked herself, "Why do Hai Hau residents not think of it? Bad things are happening in the mother land but no one sees it."

Lien is a smart and nimble woman. She graduated from accounting and finance in college and worked for the district youth union before moving to the women's union in 1994. The women's union is a mass organization under the government with the mission to take care of all women's affairs. They faced difficulty when they first joined the project of CGFED, because the local authority assumed that addressing the issue of pesticides in agriculture was not part of the mission of the women's union.

However, Lien believes that pesticides use is affecting the health of women. Women are the main and direct labourers in applying pesticides. Men are migrating to the city for jobs, and leave all farming to the women. She observes that: "When using pesticides, men know how to use them better, while women usually mix up several packs of pesticides together. It is because men have more opportunities to access information from

television and newspapers, while women are tied up with housework and taking care of children.”

In the research by CGFED in 2015, 68.8% of farmers who applied pesticides were poisoned by pesticides that come in contact with their bodies. Farmers were also found to have been using pesticides for an average of 20 years.

With 256,000 inhabitants, Hai Hau is the rice-producing centre of Nam Dinh province. It is famous for its many varieties of rice, which produce high yields of up to five tons of paddy per hectare. Unfortunately, illnesses among the people are on the rise. “It is rare to hear about cancer five to 10 years ago. But now, almost each family has at least one person dying of cancer and other diseases,” Lien shared.

Together with CGFED, Lien took action to raise awareness in the community. Now, farmers know about the dangers of being exposed to pesticides. She also successfully persuaded the district government to accept that the work women’s union is doing is necessary, especially since they have applied the red-worm model successfully. As a result, the district government has joined and supported the program.

When she visited the organic model in Cambodia in 2015, she realized that Hai Hau has high yield rice production, but rice is being sold at a price that is just one-third of the price of organic rice in neighboring countries. “(By planting organic rice), they can get more profits and also protect their health,” she said.

Lien said that at first, it was not easy. “The district government did not support us. They were reluctant to work with a non-governmental organization. Even the people were suspicious of us,” she said. The women’s union was not seen as experts in agricultural techniques. The district was also judged by the government based on rice productivity: the yield should get higher and higher. Consequently, to maintain the high yield, pesticides and chemical fertilizers were encouraged to be used. So even while several campaigns were organised to raise awareness among

farmers, farmers were still confused on how to change their ways. They did not have an alternative model to follow.

So Lien looked for information about alternative models and organised exchange visits at red-worm farms for districts leaders and the staff of the women's union. Later on, with the support from CGFED, she organised technical trainings for interested farmers. At first, most of the members were excited, but later, this excitement waned because they got no support from the local government.

Lien did not let this stop her. She believed that if the staff of the women's union became role models, the farmers would follow. She advocated the use of the women's union's micro-finance fund to support those who want to pioneer in close-loop agriculture using red-worm. So far, 20 people have received the loan.

She also invited experts and farmers practicing red-worm farming in other places to Hai Hau to give technical trainings. Before, the farmers had to be encouraged to participate in the trainings. Now, most of them are eager for new knowledge and attending these trainings voluntarily.

Training activities on 'leadership and self-reliance' have the most impact on her. "It sounded simple, and I thought that I already knew about the topic. However, after the training, I realised that I never really thought through things enough. The trainings helped me become more confident and self-reliant in everything. Now I search everywhere to find the information I need, I can argue with higher level officials when needed, and can connect people together," she said. She connected farmers with experts, connected the government with their model, and connected the objectives of the project with public programs.

Currently, Lien has retired from her position at the women's union. But she has kept dreaming of doing something more for organic agriculture. She has encouraged two young women farmers in the red-worm group to apply the organic model on their rice fields, which are large enough and settled next to each other. She also wants to plant organic rice on her own

0.3 ha of land. In her opinion, there are two kinds of support needed for anyone who wants to do organic rice: technical and financial.

When being asked about what personal characteristics contributed to her success, Lien shared: “My role as the president of the women’s union made my influence larger and the people quicker to respond. However, I think the main thing is that I never gave up. If I think that it will bring benefits for the people, I will find a way. If I failed the first time, I’ll take a second time or a third time. In addition, everyone should be patient but determined when working with authorities. It is easier to persuade them by using evidences or specific actions. They have to witness it with their own eyes.”

Lien is a woman who dares to think, dares to do, and dares to take responsibility. She dreams that Hai Hau will be a pioneer in organic agriculture and in bringing about change. *(Written by Kao Thuy and Ngoc Pham)*



***Vietnam's Plant
Protection Department
(PPD),
Ministry of Agriculture
and Rural Development
(MARD)***



The Plant Protection Department of the Ministry of Agriculture and Rural Development (MARD) works on strengthening capacities to innovate and scale-up IPM and PRR training for sustainable intensification of crop production. It works with provincial governments to organize training activities on IPM and pesticide risk reduction in line with the Government's National Food Safety Programme in almost all of Vietnam's 64 provinces.

The IPM Farmer Field School is a key activity under the Community Education Programme on Pesticide Risk Reduction. The National IPM Programme's capacity building work covers a full range of activities involving various stakeholders, including farmers. The training on PRR is tailored to specific needs of the various stakeholders depending on their role/function in the programme. The training is designed to strengthen community ownership in planning, management and implementation of the pesticide risk reduction programme.



***Farming Together,
Building Homes:
Applying No Tillage
and Integrated Pest
Management (IPM)
Practices in Growing
Potatoes***

Bui Thi Thuy

*Nha village, Thai Giang
commune, Thai Thuy District,
Thai Binh province, Vietnam*

“We did not only build our own home, we also helped our children build theirs!” This was how Mrs. Bui Thi Thuy described how she and her family benefited from practicing no tillage potato Integrated Pest Management (IPM). This innovative practice has changed her life and the lives of other women and families in Nha village. And Mrs. Thuy, 60, is proud to have been part of such an empowering change.

“Farmers in Nha village had been growing potatoes for a very long time. Even during the time when we did not have enough rice to eat, children would eat potatoes. But we were using small seed tubers and getting low yields. We did not know we could produce much bigger, better seed tubers and get higher yields,” she recounted.

On the day we visited Mrs. Thuy, the officials of the cooperative in Nha village were happy to see us. We were with the staff of the Plant Protection Sub Department (PPSD). The PPSD staff regularly shares new information with farmers to assist them in developing sound and location-specific strategies that could help them better cope with production challenges, changing environments and ecosystems.

But the staff also respects the generations of experience and knowledge that farmers and rural communities have accumulated, and how they have been designing farming systems on their own. They recognise that farmers, empowered with ecosystem knowledge and critical thinking skills, are better able to design strategies to address rapidly changing production environments in their community.

The PPSD introduced Farmer Field Schools (FFS) to Nha village. The FFS is a vehicle for knowledge and skills generation that has a proven track record of farmer empowerment in many different countries. With an adapted curriculum, the FFS can be used to help farmers adapt and develop better farming systems for profitable and sustainable livelihoods. Such was the case for the women in the village.

As we were talking in Mrs. Thuy's house, other farmers were busy selling their produce to the cooperative headed by Mr. Nguyen Duy Giap. Mr. Giap was instrumental in convincing the village leaders and farmers about the new way of growing potatoes.

The village depends a lot on potatoes. Potato is an important winter-rotation and food crop. It is a raw material for food processing and is a source of high income for smallholder farmers. The village cooperative buys the potatoes from the farmers. Traders and private companies buy the potatoes from the cooperative as raw material for food processing or to supply supermarkets.

Mrs. Thuy and the other women in the village no longer have to carry their potatoes to sell in the market. Neither do they need to pay for cold storage to keep the potatoes. Traders now come to the village to buy their potatoes (for food and seed) as soon as they are harvested. Mrs. Thuy explains, "Each year, we earn about 10 million Vietnamese Dong or VND (USD 450 at 1 USD = 22300 VND) per sau¹ from growing potatoes. We only earn 2.5 million VND (USD 112) from rice."

Before the FFS, potato productivity had been low and areas planted to

¹ 1 sau = 500m² (in northern Central Vietnam)

the crop had declined due to the lack of quality seed tubers and high labor costs—especially as many of the main labor force migrate to nearby cities to sell services in the labor market. Local migration has resulted in women, especially the elderly, being left to carry out farming activities, including spraying of pesticides. In many cases, they are also left to look after their grandchildren. Due to these reasons, as well as the fact that conventional potato production is labour intensive, many families had shifted to planting other crops, until the concept of no tillage potato growing and IPM was introduced.

The method was first introduced by the FAO Asia Regional IPM/PRR Programme through the National IPM Programme managed by the Plant Protection Department (PPD), Ministry of Agriculture and Rural Development. The FFS in Nha village was implemented by IPM Trainers from the provincial PPSD during the Winter season of 2008 to 2009. Twenty-five farmers participated in the FFS.

Mr. Bui Dinh Hau, the chief of hamlet and the husband of Mrs. Thuy, was one of the two male farmers who joined the FFS. The rest were women. Each time he came home after attending an FFS session, he would inform his wife about what he learned. That same season, together they applied what Mr. Hau learned from the FFS in their own fields. “Our relationship as husband and wife has become closer as a result of no tillage potato IPM. It has made production easy and gave us more income. We have been practicing it since the time we learned it. We taught our sons what we have learned. Before, it would take one person a day to harvest one sau. But now, one person can harvest three saus in a day and not feel tired. We do not dig but simply pull the rice straw away,” Mrs. Thuy said.

Mrs. Thuy explained to us the process of growing ‘no tillage’ potato: “No tillage means that the fields are not ploughed after harvesting Summer-Autumn rice. Instead, furrows are created for drainage, resulting in raised beds. After applying basal fertilizer, the potato seed tubers are placed on the beds and covered with rice straw from the recent harvest.” Because there is no need to plough, it is easy even for elderly women to plant the seed tubers. Fertilizer and rice straw are added twice during the season.

Rice straw from four hectares is used as mulch to grow one hectare of potato.

“At the start of the season, we plan our production together. This is important because it determines how much rice straw we need to collect. We collect rice straw from the neighboring fields. The owners just give it away for free because it is considered as litter and they just burn it. We use the straw for mulching. After harvesting potato, we recycle the straw to grow melons. My husband and I collect the rice straw. We need to do it together because one needs to pick up the straw and the other one needs to pull the cart where it is loaded. In potato production, we do all the work together. We make all decisions together,” Mrs. Thuy shared.

The use of rice straw for mulching has addressed the community’s health and environmental problems otherwise associated with the practice of burning it. Mulching with rice straw also reduces water use for irrigation from 5,000m³ to 900m³ per hectare, improves soil structure and puts nutrients back into the soil.

The organic farming practice significantly reduces labor inputs in potato production, especially for women. Labor costs (i.e., land preparation, planting, irrigation and harvesting) are reduced by 46% compared with the conventional method of growing potatoes. Reduction in pesticides use also contributes to savings. “In the past, we would use pesticides to control army worms. But since we applied no tillage and IPM, we have not used any pesticide at all,” Mrs. Thuy said.

The cooperative continued to provide opportunities for farmers to learn. From 2009 to 2012, yields have increased by 8% to 21%, and incomes have increased by 19% to 31%, largely from costs of savings from reduced labor.

Mrs. Thuy was able to build a new kitchen and dining room. Since then, from her savings each year, she has also been able to buy more bricks and cement, as well as give money to her two sons to help them build their houses.

The method has been adopted rapidly. From 25 farmers (8% male) in one province in 2009, now 4,000 farmers (70% female) in 22 provinces have adopted no tillage potato IPM. The contribution of women to the household income by applying no tillage potato IPM is clear.

On 24 August 2011, Vietnam's Ministry of Agriculture and Rural Development (MARD) recognized no tillage potato IPM as a promising model and issued the Directive 1380/BVTV-TV for all potato producing provinces in the country to apply the practice in Spring-Season 2012. The international civil society organisation Oxfam, convinced about the success demonstrated by the farmers, supported the scaling up of FFS on no tillage potato IPM. On 28 May 2013, MARD issued Decision Number 204/QD-TT-CLT recognizing "no tillage potato IPM in combination with rice straw mulch" as an "agricultural technical advancement," and instructed all potato growing provinces to apply the practice.

Indeed, Mrs. Thuy and the people of Nha village are like the tiny sparks of inspiration that eventually got the fire going. "I always explain to other farmers and customers (potato buyers) from other villages how to grow no tillage potato IPM!" she said, unwavering in her enthusiasm.





Success of SRI: ‘I tell my husband what to do in the field’

Bui Thi Cuc

*Yen My commune, Y Yen District,
Nam Dinh province, Vietnam*

We sat in the meeting room of the commune meeting hall. The building was surrounded by fields of newly transplanted rice plants. The bright green young plants and a gentle breeze made the fresh spring morning feel cooler than it probably was.

Perhaps it is living in this environment that contributes to the calm way that Mrs. Bui Thi Cuc expresses herself, talking with us about the importance of rice to her family and the significance of what she is doing for her village. “People ask me about SRI (System of Rice Intensification) and my field. I feel very happy that I can share my knowledge and good results from my field with other farmers, and that I can contribute to reducing environmental pollution,” she said.

While she may not be aware of it, she is highlighting the crucial role that small holder farmers, especially women, play in ensuring that the world’s population get healthy food on their table.

While most consumers do not realize it either, smallholder farmers like Mrs. Cuc are under pressure to intensify crop production to feed the world’s increasing population, which is projected to reach about 9.2 billion

in 2050. They face a series of intersecting challenges, like migration of the labor force to nearby cities, increased competition for land and water, rising fuel and fertiliser prices, and the impact of climate change.

Vietnam is the world's second biggest exporter of rice. Thus, the Government has promoted the intensification of rice production in recent years through the provision of incentives, including subsidies for inputs such as fertilizers and pesticides.

However, the widespread and indiscriminate use of inputs has worked to the farmers' disadvantage. Lack of information has led farmers to frequent calendar-based pesticide sprays and the application of excessive amounts of chemical fertilisers, in efforts to increase their yields. "We believed that we would not harvest anything if we did not spray. We would spray 3 to 4 times in a season," Mrs. Cuc recalled.

Mrs. Bui Thi Cuc, 48, has four daughters. Both she and her husband, Mr. Bui Dang Nga, are farmers. Her husband is the chairman of the hamlet. Mrs. Cuc, meanwhile, became a member of the women's union when she was 21 years old. The Vietnam Women's Union (VWU) is a political organisation that represents the lawful rights and interests of women and the legitimacy of Vietnam's women. A member of the Vietnam Fatherland Front, as well as a member of the League of Women International Democratic Federation and the women's organization of ASEAN, the VWU strives for the development of women and gender equality.

As a member of the women's union, Mrs. Cuc is able to participate in meetings that provide the opportunity to learn from other women about various topics related to the concerns of women, as well as matters about community development.

In 2013, the FAO Asia Regional IPM/PRR (Integrated Pest Management/Pesticide Risk Reduction) Programme, through the National IPM Programme managed by the Plant Protection Department (PPD), Ministry of Agriculture and Rural Development, supported the pilot Community Education Programme on Pesticide Risk Reduction in Yen

My commune, Y Yen District, Nam Dinh province. The local programme was facilitated by IPM Trainers from the provincial Plant Protection Sub Department (PPSD).

Yen My commune has a population of 6,000 people. About 432 hectares of land is used for agricultural purposes. Of this, 382 hectares is used for growing rice. The average yield of rice is 5.4 to 6.4 tons per hectare. The commune is known for its high use of pesticides. “There used to be 5 to 7 cases of farmers falling sick in the field due to pesticide poisoning reported each season, mostly women. This is because women carry out most of the field activities. The men are not in the commune. They migrate to the cities to earn much needed cash to support the education of our children,” said Mrs. Cuc.

In Summer 2014, Mrs. Cuc was selected to be part of what is called the Core Farmers’ Group. The members of this group are selected based on their ability to help other farmers learn new knowledge and skills, and also their commitment to the improvement of the lives of other farmers and the community at large.

The Core Group periodically receives training on new techniques and technologies. Mrs. Cuc received the training on System of Rice Intensification (SRI), and considers it her responsibility to share what she learned with other farmers in the commune. The Community Education Programme on Pesticide Risk Reduction aims to strengthen community ownership in planning, management and implementation of the local programme on pesticide risk reduction.

What is happening in the village is highly interesting because everyone is involved in reducing risks from chemicals, especially pesticides. The community realizes that it is a problem that needs everyone’s participation. At the beginning of the season, members of the community walked around the village to see and make a map of how the chemicals come into the community through fields, homes, canals and ponds. Then they prepared plans on how to reduce the risks to the farmers and community, by assigning roles and responsibilities to different groups in the village.

Local leaders learned about the government laws relating to pesticide and pesticide management so that they can enforce these laws. Pesticide shop sellers learned about what chemicals are banned and how to handle chemicals to reduce risks. Farmers learned in Farmer Field Schools (FFS) about improved agronomic practices (e.g., SRI), IPM and strategies to reduce risks from chemicals. They gained experience on mass production and field application of the biological control agent, *Metarhizium anisopliae*, for management of brown plant hoppers.

There were also short courses for members of the cooperative on understanding pesticide labels, toxicity of pesticides, pesticide risks to humans and the environment, and other topics. School officials, teachers and students joined campaigns on pesticide risk reduction such as the 'Green Environment Day' event. They prepared slogans and displayed these for members of the community to see.

The commune also came up with the strategy of using bags for the disposal of empty pesticide containers. Various community-based organisations like the Farmers' Union, Women's Union, Youth Union and secondary school students participate in periodically collecting empty pesticide containers that are thrown away in the field (although the commune still needs to figure out what to do with the empty pesticide containers).

The commune cooperative also regularly broadcasts messages on pesticide risk reduction and good agriculture practices through the public address system. "There are those who do not comply with the action plans agreed upon by everyone during the community meeting. We can only show them the good results of the community education programme on pesticide risk reduction. Hopefully, they will also follow when they realize the good results for our own families and for the community's good," Mrs. Cuc said.

Mrs. Cuc attended a FFS on IPM/Pesticide Risk Reduction during the summer of 2014. "There were forty of us, all women. Men were not available to join the FFS because they either work in factories or furniture shops," she said.

Mrs. Cuc saw for herself that fields where high dosages of nitrogenous fertilizers were applied had more insect pests, indicating that too much nitrogen causes the rice plants to be more attractive to insects that cause damage. This made her realize that the continued practice of overuse of chemical inputs, both fertilizer and pesticides, could cause a disruption in the balance of the agro-ecosystem, which in turn could lead to more pest problems.

Learning about the signs and symptoms of pesticide poisoning also made her realize how the intensive use of highly hazardous chemicals by smallholder farmers causes a high incidence of poisoning, especially of women, who are mainly responsible for growing the crops.

In support of the community education programme on pesticide risk reduction, and in recognition of the women's contribution to the community, the commune leadership developed a local policy wherein the cooperative pays for the health insurance of women farmers engaged in collecting empty pesticide containers.

Mrs. Cuc got visibly excited when she started talking about new SRI practices being taught in the FFS: "Before I attended the FFS, I would transplant many seedlings per hill and use a lot of nitrogen. Through experiments in the FFS, I saw that the number of seedlings per hill and the amount of nitrogenous fertiliser could be reduced and still get higher yields." The practice included the use of less seeds for transplanting and wider spacing between plants.

The farmers saw that the plants grew bigger and better, compared to their conventional practices. "The rice plants were stronger because they received more light. They were more resistant and there were also less insect and disease incidence and better yields. I told my husband about the results of the FFS. He was very happy about it. He works with me in the field. And based on what I learned in the FFS, I tell my husband what to do in the field," she said.

From 42 to 45 hills/m², they now use only 28 to 30 hills/m², or about

60% reduction in seeds for planting. They have also reduced the use of nitrogenous fertilizer by 70% and increased yields by 15%. “What we save from pesticides, seeds and labor go to other family needs like school, food and clothes... It is a good model and it helps us very much,” said Mrs. Cuc, clearly convinced about what she was doing.

Her husband, Mr. Bui Dang Nga, had this to say: “I am happy that she participated in the FFS. She has been able to apply what she learned in our fields. She is able to share her experiences with our neighbours and they, too, can increase their income.” Admiring her for being a good leader, as well as a good wife and mother, he said that he would not have it any other way. He thinks that what Mrs. Cuc is doing is important, helping to improve the lives of other farmers and the welfare of the community. Like the rest of the community, he is immensely proud of her.



Initiatives on Community Empowerment for Rural Development (ICERD)



Over 80% of Vietnamese people are employed in agriculture, and the majority are women. At present, there is a pronounced struggle between traditional and modern farming techniques. Vietnamese farmers struggle with increasingly unstable environments and the influence of industrialization. There is an apparent lack of understanding on how to effectively and safely adapt agricultural practices so that neither profit nor health will be sacrificed.

The Field Alliance began working with ICERD in 2003, and with support from TFA, ICERD has developed an agreement with the Continuing Education Department and Secondary Education Department within the Ministry of Education & Training to integrate agrobiodiversity and pesticide risk reduction into the national curriculum and as well as into the educational materials for the Continuing Learning Centers throughout Vietnam. Farmers' programs on Home Vegetable Gardens, biomats/composting, and rice-fish farming have been particularly successful in Bac Giang allowing farmers to increase and diversify their income.

In 2014-2015, Vietnam has had particular success with trainings on how to raise and profit from rice-fish as well as on making and using biomats to improve environmental conditions. Two women's groups in Bac Giang studied and produced organic fertilizer by making biomats from chicken dung, pig dung, and other biomass. Women and students growing vegetables in home gardens is another way that has proven effective for families to obtain a variety of nutrient-rich foods at low cost while simultaneously creating a system of home-based employment for women who can process and preserve vegetables in order to continue to generate revenue during low seasons.

With support and encouragement from TEF, ICERD has also developed an agreement with the Continuing Education Department and Secondary Education Department within the Ministry of Education & Training to integrate agrobiodiversity and pesticide risk reduction into the national curriculum and as well as into the educational materials for the Continuing Learning Centers throughout Vietnam.



Agro-biodiversity and rice-fish farming

Le Thi Hong

*Xuan An Village,
Xuan Phu Commune - Yen Dung
District, Bac Giang Province,
Vietnam*

At the age of 69, Le could be content with having her four children all grown up and with jobs. She is happy just feeding her grandchildren chemical-free vegetables from her garden. But she cannot rest knowing that continuous education and practice of biodiversity in agriculture is needed to sustain the gains that her community has achieved so far.

In her community, agricultural production is often not enough for the living expenses of families. Young men and women work elsewhere to make money. Production work is mainly done by women aged 40 to 60 years old. Women also do most of the chemical spraying.

Due to lack of understanding of sustainable farming, farmers overuse chemical nitrogen fertilizers. Farmers also sprayed chemical pesticides heavily: an average of five to seven applications for one crop season. As a result, outbreaks of pests and diseases occurred often and reduced rice productivity. In the rice crop planted during the summer of 2010, for instance, the plant hopper was so harmful that it reduced rice yields by 20%.

“Farmers feel very afraid while spraying pesticides. They think that their exposure is the cause of their back, joint, and knee pains. Some people lose their balance when walking,” Le said.

Women and children are most affected. In recent years, miscarriage, stillbirths, and premature births have increased. “Children often play on the edges of the village that are near the cultivation fields. Parents are very worried that they are likely contaminated by pesticides,” she added. Empty pesticides containers and wastewater also affect their cattle, pigs and chickens.

As the deputy head of the village and head of the Women’s Club, Le is at the forefront of initiatives to promote biodiversity-based agriculture. The club works mainly on the conservation of aquatic animals and fish in rice fields, also known as rice-fish farming. “Pesticides have killed a lot of species, especially aquatic animals living in the rice fields, ponds, and canals,” she said.

From 2014, her hamlet was supported by the REAL Project to enhance community capacity. “After being educated at the Farmer Field School on agro-biodiversity conservation and conservation of animal aquatics in the rice field, I decided to mobilise women in villages, who have been engaged in rice-fish farming. Since then, the club maintains an effective operation,” Le said.

The women also participated in trainings on pesticide risk reduction, vegetable farming, utilisation of bio-agents for brown plant hopper control, and utilisation of bio-mats. Biological mats (bio-mats) is a mixture of different materials (husk, coco or husk, sawdust) and fermentative bio-organisms used for mulching the floor lining in livestock and poultry. It reduces environmental pollution and produces organic compost fertilizer for vegetables and rice.

The women were able to apply the Rice Intensification System (SRI) and Integrated Pest Management (IPM), which “makes rice plants healthy, resistant to pests and diseases, and increases their ability to adapt to climate change,” Le said.

Since applying IPM and SRI, the village has seen more than 10% increase in rice productivity. Profit has also risen by 7%, while pesticide use

has been reduced by 80%, commercial seed use by 60%, and nitrogen fertilizers use by 20%.

Organic vegetable gardens have also proliferated, due to women's increased technical capabilities. "Women's health and the rural environment in general has improved," Le happily stated.

Moreover, robust activity in the organisation has helped establish more women's clubs and strengthen women's unity and cooperation. Le shared that she has increased her own abilities and confidence in mobilising women, contributing ideas, as well as in negotiating with companies in behalf of the community.

The positive changes in the community also make families happier. "Now I am able to guide my two daughters on the role of nutrition for her own children. My husband has also agreed to share household tasks, so that I have more time to participate in community activities and engage in raising awareness and skills," Le shared.

For the future, she longs for greater assistance in market access for their organic produce, as well as in looking for sources of biological products for IPM.





A Happier Commune

La Thi Lieu

*Na Hoi commune,
Bac Ha district, Lao Cai province,
Vietnam*

La Thi Lieu, 47, grows vegetables for a living. As a leader of the women's commune as well as a mother of two children, the productivity of her farm and the development of their community are very important to her.

The Na Hoi commune, located in the highlands, faces unique challenges in production. It has limited land for cultivation, so people use the land incessantly. There is little irrigation; the main source of water is rain. Generally, there is a lack of knowledge on techniques in growing vegetable varieties and in farm management.

In 2008, the members of the commune established an agricultural group for sharing experiences and technical support to members of the community. The group facilitated the sharing of material supplies, and guided farmers in cultivation techniques. In 2011, all the members agreed to formalize the group into a cooperative, with the name Di Thang Agricultural Cooperative.

La Thi Lieu was one of the cooperative's pioneers, and served at its head from 2010 to 2013. "Members of cooperative have been growing common vegetables that have been grown in this location for a long time, and during the same season. We did not have the technique and information

for growing other varieties for different seasons. Because of this, our crops were vulnerable to diseases and insects. Productivity, too, was very low,” she said.

She shared that they used pesticides “to develop some vegetable varieties at the wrong time.” Thus, the varieties that they developed were not strong and diseased.

But after graduating from several training courses under the REAL Project, La Thi Lieu acquired new techniques and knowledge on farm management. These trainings raised her awareness on how pesticides are toxic to human health and ecological environment. “At present, we do not use pesticides so much. The conditions are better for growing vegetables, and farmers have support from our local technical staff,” she said.

The trainings helped her appreciate biodiversity, and the need to protect indigenous vegetable varieties. The knowledge also taught her how to effectively plan for cultivating on limited land. “When we understand agricultural biodiversity, it helps us get more benefits from the system via conservation and development,” she said.

Through trainings and experience, she also found out that indigenous vegetable varieties could perform well in the market. “My knowledge and skills on market access were enhanced. Now, I can help other members fetch a better price for our products in the market. We are getting more income and we can save money for investing in the next season,” she proudly said.

She admitted, though, that it was still difficult to search for markets for “safe products” like the vegetables that the Di Thang cooperative now produces. But some farmers are now able to sell vegetables to Lao Cai City and Hanoi City.

In general, the commune has seen a drastic reduction in the cost of production and labor. They are also capable now of making good plans for cultivation.

After getting a lot of positive results, many farmers' groups from other communities started to visit their farms. The cooperative members would share their knowledge and skills to their visitors. "Sometimes, I am very busy taking care of visitors. I feel confident when participating in social activities, and this confidence helps more people to learn from our experiences," La Thi Lieu said.

She shared that with the development of her commune, her family has also become happier. Her two children are now studying in the university. "It takes time to participate in activities to help people, but I feel very happy to be helping others. I have developed very good skills in connecting with people within and outside the cooperative. I hope I can further enhance my knowledge and continue supporting members in our community and in other communes," she concluded.



Cambodia



Agriculture Technology Services Association (ATSA)



In 2007, The Field Alliance initiated a partnership with Cambodia in cooperation with Agriculture and Technology Services Association or ATSA under the direction of Sodavy Pan. Serving as the primary contact for this program since the beginning, Ms. Pan has worked closely with TFA for the past eight years to identify recurrent and newly emerging environmental and agricultural concerns within Cambodia.

For Cambodia, deforestation and land degradation have been identified as the most pressing environmental issues as the country continues to develop in an industrial capacity. In order to compensate for diminishing land and unraveling ecosystems, farmers are using more and more pesticides in order to render the highest yield possible and sustain themselves financially. This overuse of pesticides not only poses a great threat to public health but also to the ecosystem at large, paving the way for future problems such as pest mutations, plant or animal extinction, water pollution, and decreased biodiversity among others issues. Cambodia's extreme rain patterns also present farmers with a great challenge: dealing with floods one season and drought the next.

These issues are compounded by the fact that many Cambodian citizens lack access to basic education or vocational training without which they are forced to make temporary and often destructive decisions. With the support of the Thai Education Foundation (TEF), since 2007, thousands of present and future farmers have been trained using the REAL Education model. These individuals have been educated on the dangers of pesticides and their impact on the environment, the benefits of organic farming, the importance of crop diversity and composting, as well as being taught practical income management methods using sustainable and self-sufficient business models such as the Women's Savings Groups mentioned in the farmers' profiles.



Success of Women's Development

Em Kunthea

*Preak Chhdor Village,
Peam Ek Commune,
Ek Phnom District,
Battambang Province, Cambodia*

Em Kunthea, 51, is a mother of two sons. She is proud that both of them are students at the university, because she herself only finished secondary school. With about 2 hectares of land for vegetables and fruit trees, she and her husband derive their income mainly from agricultural production.

Em is the vice-president of a women's group called "Akphiwat Strey" ("Women's Development"). In her community, women face common issues such as lack of irrigation, limited information about marketing and agricultural techniques, and exposure to pesticides. Both women and children are exposed to toxic fumes. "Women's health becomes weak. For pregnant women, exposure affects the baby," Em said. While it is usually men who still mainly handle pesticides, more and more responsibility is borne by the women, as the men migrate to the cities to find jobs.

But with the women's group and its partner organisation ATSA, new information is being shared among the community. "We are now trying to produce botanical pesticides and practice other cultivation methods to control and prevent pests. We are also now aware of pesticide hazards and have started to reduce the risk of pesticide exposure by using proper protective equipment as much as we can, and by being careful when storing and disposing of pesticides," Em said.

Before she participated in the REAL Project, Em said that she spent about 4 million Cambodian Riel or KHR (USD 980 at 1 USD= 4082 KHR) for pesticides and fertilizers. Now, she spends only about 1 million KHR (USD 245) for making compost and botanical pesticides.

She and her group participated in trainings on vegetable growing techniques and on producing natural liquid fertilizer, botanical pesticides, and compost. Moreover, they participate in Farmer Field Schools and in No Pesticides Use Week, extending knowledge to other farmers in the community. “These activities made us change our practices,” she said.

Since they have been using more compost, soil fertilizer and soil structure had improved. They use yellow traps to control insects, and natural liquid compost to help plants grow. They have started experimenting with other cultivation methods.

“I have reduced expenses and increased incomes. My family is happy and safe from exposure to toxic pesticides. I am aware of the benefits of agro-biodiversity. And it is such a pleasure to be able to extend these experiences to other farmers!” she said.

Even though she has already learned many things, she thinks that their community still needs more support to continue to update and expand their knowledge. “We need more market access for our healthy products and water reservoirs to improve our access to water,” she concluded.





Success of Lucky Kraing Khmer

Pov Sophy

*Kraing Khmer Village,
Porpel Commune, Boribo district,
Kampong Chhnang Province,
Cambodia*

Thirty-four years old, married and with two children, Pov Sophy finished grade 10 at a local secondary school. She and her husband are both farmers. Their main income is from rice production, growing vegetables, raising pigs, and making sugar palm.

Sophy joined the Women's Saving Group in mid 2015. Her group's name is "Kraing Khmer Samnang" (Lucky Kraing Khmer). Right now, she is the vice-group leader, responsible for solving problems within the group, coaching members to record farm and household accounting, and facilitating meetings and trainings.

Sophy relates some of the problems faced by her community. "People are poor and still have to spend money to buy pesticides. Many feel hesitant or don't know what kind of pesticides they should buy," she said.

Women heads of household spray pesticides themselves and are the most exposed to pesticides. They are also most vulnerable to health problems. "They have many illnesses that they think are caused by pesticides, such as itchy skin, headaches, dizziness, and stomach pain," she added.

Sophy and her group are trying to solve the above problems by raising awareness in their community about the effects of pesticides, and training members how to reduce risks. "We also talk to them about the benefits of improving and maintaining the agro-biodiversity in the farmland," she said.

Now, the community is more aware of the hazardous effects of pesticides on their health and environment. They have reduced the amount being used and improved their behavior in handling, spraying, storing, and disposing pesticides. “Farmers who have experienced pesticide poisoning easily adapt to these changes. However, many farmers are still concerned that if they reduce or do not use pesticides, pests will destroy all their crops and they will have no yield or income. There is still a lot of fear,” she admitted.

For Sophy, knowledge and good experiences are only gained after joining many trainings and workshops. She now uses natural pesticides and fertilizers for her vegetables and has reduced the use of almost all chemical pesticides. She also feels more confident in providing ideas to the community, and helps in establishing more women’s groups.



She noted that there are still many things to be accomplished and improvements to be done. For instance, some plants that are needed for making botanical pesticides are difficult to find in the community. Some farmers have difficulty in changing their behavior in pesticide use and handling. She suggested that the REAL Project organise a campaign and training on pesticide risk reduction and alternative approaches to controlling pests; assist them on market access for organic products; and help improve their access to water so that they can grow vegetables all year round.

Like other farmers, she has alternative income-generating activities during off-season, but it is not enough for her family. “We still need more support for capacity-building, especially on various agro-ecological techniques and market access,” she said.

CEDAC: Building capacity and knowledge



Founded in August 1997, the Cambodian Center for Study and Development in Agriculture (CEDAC) has been working to build the capacity and knowledge of rural farmers in ecologically-sound agriculture. Since its inception, CEDAC has implemented more than 165 community development projects.

As a result, more than 150,000 small-scale farming families in 6,179 villages, 953 communes and 131 districts in 22 provinces have improved their socio-economic conditions. Around 75,100 families have applied agro-ecological innovations and techniques introduced by CEDAC, including system of rice intensification (SRI), chicken and pig raising, home gardening, compost, fish culture, tree planting, multi-purpose farm etc. These have improved household food security and income generation.

CEDAC also helped to establish an independent national farmer’s association network known as the Farmer and Nature Net. This network comprises of 1,249 village-based Farmer Associations across 12 provinces in Cambodia. A total of 1,329 local saving groups—comprised of around 40,000 members—have also been set up with CEDAC’s assistance.

CEDAC also consciously links farmers to consumers. Ten CEDAC shops have been formed in Phnom Penh as a result of pioneering efforts to link small food producers to a wider market. These shops aim to ensure that safe food is supplied to Cambodian consumers and to improve locally produced food.

Furthermore, CEDAC is highly active in pesticides monitoring and PANAP’s “Protect our Children from Toxic Pesticides Campaign.” CEDAC has monitored pesticides being used around schools, and has convinced teachers to speak out against pesticides use.



Persistence pays off for Sovanry

Nhem Sovanry

*Po Preah Sang village,
Taphem commune, Tramkak
district, Takeo province,
Cambodia*

Nhem Sovanry, 38, has 1.5 hectares of rice fields and 800 square meters of home garden. Ever since she was a child helping her parents in the farm, they had been using pesticides on vegetables they were growing like watermelon, cucumber and beans.

Things changed when she was introduced to PANAP's partner CEDAC through a training on organic farming. After the training, she realised that organic farming will help the environment and make their lives healthier. "At first, it was difficult to take care of the crops and collect the fertilisers. But the value of the vegetables has grown and the selling price has increased," she said happily.

She started SRI (System of Rice Intensification) in 2004, in a field trial, and then applied the full SRI technique in 2011. She now has a Rice Group with 21 members, mostly women, that also started in 2011. "Women are more active in the rice fields," Sovanry said.

Her persistence is paying off. In 2013, out of more than 700 applicants in the district, she was awarded first prize in the SRI national competition organised by CEDAC.

Right now, what is most challenging in rice farming is access to water. So Sovanry is investing in a man-made pond. The construction of the pond is ongoing.

At first, her group did not believe in the potential of marketing their organic products. But when Sovanry visited the CEDAC market, she herself was convinced, and thus was able to convince the other women too. Now, they sell their produce to the CEDAC market on a monthly basis. They are scheduled to open their own weekly organic market in front of the local District Hall.



Sovanry conducts various trainings: SRI techniques, home gardening, chicken-raising; basic accounting and family budgeting, composting, how to make botanical insecticides, and post-processing. She goes to the farm of members to check on problems and gives advice. Her house is also used for delivering vegetables from the fields to the market. “I have to set an example to others. I have to give time for consultations and listen to them,” she said.

When she is busy with trainings, she delegates household and farm work to her husband and children. For her, trainings are very important. “When members cannot attend, I go to them one by one and explain to them why they should,” she said.

Sovanry is very happy when farmers practice what they have learned, and see how it contributes to their own livelihoods. “If farmers in Cambodia practice organic farming, families will be self-sufficient just like us. Farmers should understand the basic principles in farming: one has to have a pond (or water source), paddy field, home garden, and animals such as chickens or cows. With these four elements, including hard work, one can be a successful and self-sufficient farmer,” she said.

The Organic Vegetables Producers Group

Various Women

*Oveng Village, Kaheng Commune,
Samrang Tong District, Kampong Speu Province,
Cambodia*



The Organic Vegetables Producers Group started in 2009 with eight women, pooling together their individually-owned small plots of land. The women share this field for growing organic vegetables. At the start, they could grow very little and did not have a market. Through PANAP's partner CEDAC's help, they learned about the benefits of organic farming and the ill-effects of pesticides, and were trained on the various vegetable growing techniques.

Their trainings were scheduled once a month and consisted of composting (wet and dry), insect management, crop rotation, packaging and selling products, etc.

They sell their produce in the CEDAC shop three times a week, and through their local weekly market every Thursdays and Sundays.

They have more than 20 crop varieties. The women harvest vegetables in the collective plot every afternoon, starting at 4 p.m.

Together with the CEDAC staff, they plan and decide which crops to plant, and how to improve both the quantity and quality of their produce.

Chantha, 45, can still take care and cook for her children while tending her farm. “My family eats the vegetables that we grow so we don’t have to worry about the diseases caused by chemical farming,” she shared. Chantha is head of the Organic Vegetables Producers Group.

The benefit of having a group is that they have a variety of crops, and higher volume of supply that can easily sell.

Men Samoeun, 62, said that her family’s income increased after they started the Organic Vegetables Producers Group.

Pou Sokhom, 48, agreed that the group made marketing their produce a lot easier. “Before joining the group, it is difficult to work alone in the farm. Marketing was challenging because price depends on the middlemen,” she said.

Yek, 63, said that with the Organic Vegetables Producers Group, “we can negotiate for a better price.”

In 2013, they also started a Savings Group, which is useful for emergency loans.

Now, they want to expand the group to involve more neighbors. “We want to convince them to plant organic vegetables and make use of their idle lands,” Chantha declared.

Thailand



**Thai Education
Foundation (TEF)
and the
Non-Formal Education
Department, Department
of Education (NFE)**



Thai Education Foundation (TEF) is a non-profit organization working to improve education in Thailand. TEF has its origins in the work of World Education, an international NGO that was active in Thailand during the 1970's and 1980's. In the last decade, Thai Education Foundation has become an independent organization working closely with government agencies including the ministries of education, agriculture, environment, and health, as well as the international organizations FAO, KemI, Unicef, and UNESCO.

TEF has played a leading role in Asia in the development of the REAL education model for school children based on the 'Farmer Field School' approach. TEF currently maintains innovative field programs within schools, Community Learning Centers, and various other agencies while periodically undertaking scientific studies aimed at policy update and formulation. TEF is considered to be a predecessor to The Field Alliance and Director Marut Jatiket leads both organizations.

Thai Education Foundation has become an independent organization working closely with the Government agencies, international donors and various other NGOs in the following areas: educational reform and decentralization; local capacity building; non-formal, adult and primary education; learner-centered, experiential education and action research; training and curriculum development and facilitation; environmental education; and management information systems and educational technology.



IPM: Dawning of a New Age for Wandee

Wandee Moonma

*Tron District, Outaradit Province,
Thailand*

Wandee Moonma, 40, started her life as a farmer around six years ago, when her husband inherited some land. In her community, each household has at least 10 rai of rice fields, or around 1.5 hectares of land.

Like most women in the community, Wandee's days were mostly spent in the fields, helping her husband drain water into the rice fields, applying fertilisers, and spraying pesticides. A mother of two children, she admitted that she started farming without much knowledge. She was always fearful of labor shortage and of losing money.

To cope with these fears, she relies heavily on chemicals, believing that she was protecting her rice fields from insects and other epidemics. All her neighbors were also using chemicals, and she fears that insects could be migrating from their fields to hers.

In Wandee's rice-growing community, majority of the people face the same problems: the spread of insects, the high costs of chemical inputs, and debts to the Bank of Agriculture. Wandee expressed that they face similar problems caused by pesticides: "We used huge amounts of concentrated pesticides. My home is also located in the path of the wind, so when my neighbors use pesticides, it causes a very bad smell and I have to leave home. This happens to almost everyone."

Every year, Wandee and her husband felt themselves grow weaker and weaker, their health turning bad. Because of the farming costs, their debt also increased.

So when the Farmer Field School project came to their community, Wandee and her husband were attracted to the principles it presented to support farmers. So they decided to join. At the first cropping, after the Integrated Pest Management (IPM) activities, Wandee saw at once how costs were reduced and how her health was improved. Now, they are able to keep rice grains for family consumption, in keeping with the IPM principle. “Insects that I thought were enemies have become friends. The good results also encourage involvement from other community members,” Wandee added.

Presently, Wandee works as a women’s group coordinator to persuade interested housewives to stop using pesticides in their rice fields, and to search for new methods instead. She revealed that in the rice fields, most women take control over how to do things. “Before, I used to tell my husband to spray pesticides in the fields and to buy from the shop. So if we would like to reduce chemical use in our community, we must encourage both husbands and wives to learn and make decisions together,” she said.

The Farmer Field School now has around 20 members; half of them are women. Before, the community members work separately in the fields with little or no interaction. Now they work closely together, sharing knowledge, especially among women farmers.

The results are concrete: accounting books show that before, farmers each spent no less than 300,000 Thai Baht or THB (USD 8662 at 1 USD = 35 BHT conversion rate) for insecticides alone. But in their most recent yield, they paid only 3,000 THB (USD 87) for supplemental costs. They are now enjoying lower expenses and higher profits. “These made us see clearly the difference in the costs. Our health has been getting better as well,” Wandee said.

Wandee has some recommendations to improve the IPM project and have more community members involved in its activities. For her, the women's group is not enough to effect a huge change. "Government should take a leading role to promote and support these activities. Even though Thailand is currently faced with drought conditions and the government has encouraged farmers to grow crops that need less water, like red onion instead of rice, we still want to continue growing organic rice," she said.

For her, scaling up their current efforts means setting up their own community rice mill, and learning how to package organic rice so that it sells better in the market.



China



PEAC: For women's health and empowerment



PEAC (Pesticide Eco-Alternatives Center) is an NGO with a long-term mission of pesticide use reduction and development of ecological and organic agriculture. Eco-Women, an independent organisation working on women's health and empowerment, is one of the groups that PEAC actively supports.

When PEAC started to work in Heinigou village—whose residents consist of the Miao minority—farmers used a lot of pesticides. So PEAC introduced the experiences of Hei'er and Chengguan villages (earlier project sites) to Heinigou and implemented a pesticide survey in 2010. At the same time, PEAC organised a training to improve the farmers' awareness of pesticide risks. PEAC also taught ecological methods for pest control. In addition, Eco-Women organised women's ability training and discussions about food safety, ecological agriculture and health.

Women started ecological vegetable planting in 2012. PEAC also linked the farmers to consumers through participation in the farmers' market. To increase the women farmers' confidence, field visits are also arranged.

In addition, Eco-Women provides the opportunity for women in Heinigou village to participate in international conferences and learn from other women about community development and women's rights.



Dancer and farmer

Long Xiufen

*Heinigou Village, Kunming,
Yunnan Province, China*

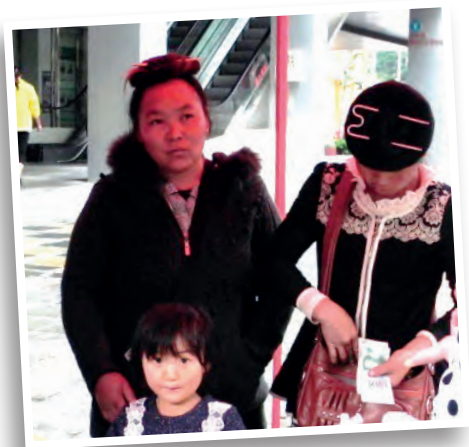
Long Xiufen wears the classic Miao hairdo, a plated bun, and has darkened skin, the result of constant work under the beating sun. Her appearance is in the traditional spirit of Miao culture.

Coming from a background of poverty, she had to drop out of school before completing the fifth grade in order to help her family in the fields. Unfortunately, her native mountainous land is hard to work on, making it difficult to make a good living there.

Through Eco-Women, she got actively involved in activities related to the interests and concerns of women. At the same time, she got the opportunity to communicate with rural women from other places. She began to feel more confident, and found that women can also do as many things as a man. Upon visiting PANAP's partner PEAC's organic farm, she also gained more confidence in practicing ecological agriculture.

Long Xiufen is also a member of the village dance team. Every time she comes to the Cai Yun Farmers Market, in addition to bringing products to sell, she also brings exciting dance performances to an audience.

Long Xiufen's agricultural products are very popular on the market. She has high sales most of the time.



From tobacco to organic vegetables

Wang Meifen

*Heinigou Village, Kunming,
Yunnan Province, China*

For the longest time, tobacco has been Wang Meifen's primary source of income. But this year, she planted only half the amount that she did in the previous year.

The local variety of tobacco is extremely time-consuming to grow. Meifen often works in the field from 7 a.m. until 2 a.m. during harvest time.

After PANAP's partner PEAC shared information about pesticide risk and ecological methods for pest control, through trainings with farmers, she gradually learned about the impact of pesticide and fertilizer usage on her family's health. It has impacts on nearby water and soil as well.

So Meifen came up with a bold idea: to grow her own ecological vegetables. Doing so would not only allow her and her family to eat healthier, but it would also protect the land.

Eco-Women was very happy with her idea, and took her to visit the Cai Yun Farmers Market to communicate with consumers. After being inspired, she took a small piece of land on which to plant ecological vegetables.

With high demand for these vegetables, she decided to set aside more land for growing them this year. Should sales grow with the increased supply, she intends to use even more land for growing eco-friendly vegetables. "Not just for the sake of physical health," she said, but more importantly, "in order to protect the land."



Confident at the market

Zhang Meixian

*Heinigou Village, Kunming,
Yunnan Province, China*

No matter how busy, Zhang Meixian's participation in the monthly farmers' market is both an important component of her income stream and a form of relaxation for her. Each month, she attends the farmers' market with her youngest daughter.

Ms. Zhang, 30, has been married since the age of 16. She has two daughters, aged 14 and five. The youngest is attending pre-school in the village. While most of the family's income comes from farming, her husband works in the nearby Baiyi Town to supplement this income.

With the help of PANAP's partner PEAC and Eco-women, Zhang Meixian began to plant ecological vegetables and participate in the farmers' market. Since November 2012, she has never missed going to the market once a month.

At the beginning of ecological vegetable farming, Ms. Zhang faced many challenges. But she was able to surmount these after a while. She is very grateful for the information on ecological methods for pest control taught by PEAC.

Because of the lack of communication with the outside world, and because she was not good at calculating, she was initially very nervous when

she was beginning to market. But the Eco-Women staff patiently sold ecological vegetables with her, and introduced her to consumers to make her more confident. What's more, Eco-women conducted a calculator training for women in Heinigou village.

Now, walking around the market while all kinds of vegetables, Zhang Meixian can't repress her joy. She has become good at selling ecological vegetables all by herself.

Planting ecological vegetables are quietly changing her life. The money she earns at the monthly farmers' market is important for her family's income. After the market had closed for the day, she took her daughter to buy a doll as a treat, much to the delight of the girl.





Never short of a smile

Zhang Shaolan

*Heinigou Village, Kunming,
Yunnan Province, China*

Zhang Shaolan is a major player in Heinigou's ecological farming community. As one of the early adopters of ecological farming methods and an avid participant in the monthly Cai Yun Farmer's Market, she truly shows what it means to lead by example.

After many years of diligently farming her family's mountainous land, Ms. Zhang has found a way to make her rough land give generous returns. At Cai Yun, her arrowroot, green cabbage, and radish are consistent hits with consumers. With a smile that stretches from ear to ear, Ms. Zhang cheerfully reports that though yields on the land are not always high, as a result of the tough terrain and the difficulties associated with ecological farming, she is still glad to be contributing to healthier lifestyles for her customers. The most important consideration, she says, is always human health.

Ms. Zhang says that though most people know how tasty ecologically-grown food is, few know about the difficulties associated with practicing the methods. Yet despite how trying daily manual weeding can be, she is always cheered by the sight of a new ripe vegetable. "Without pesticides, my body really feels changed for the better," she said.

“Though my income from ecological agriculture is not always high, I must continue planting ecological crops so that more and more people will come to recognize the importance of ecological agriculture for both the land and for health,” she added.

A Miao farmer who has been a leading participant in PANAP’s partner PEAC and Eco-Women’s pesticide-free farming program, Ms. Zhang never seems to be short of energy or a smile. Despite her long and hard workdays, made all the more challenging due to her dual commitment to ecological farming methods and the rearing of three children, she manages to keep up a contagiously upbeat attitude.

This attitude was on display at the recent Cai Yun Farmers’ Market, where she seemed to thrive off of the bustling chaos as consumers crowded her food stand, on top of which was pasted, among other things, a big photo of her smiling with a freshly picked ecological turnip in hand.

As city-dwellers came to buy anything from turnips to lettuce, she bagged, weighed, and collected money for their goods, always ensuring that they left with a smile like her own. Life as a Miao woman isn’t easy, but Zhang Shaolan makes it seem that way. She has managed to help her eldest daughter become Heinigou’s first college student, and she hopes her second and third children can follow suit.

All the while, she is farming in a way that is healthy for the earth and for those who buy her products.



Implementing Partners

LEAD AGENCY
Swedish Chemicals Agency (KemI)

KemI is the driving force in Swedish efforts to attain a non-toxic environment. It is a central supervisory authority under the Ministry of the Environment and works for preventive chemicals control, making sure that companies producing or importing chemicals take responsibility for the safety of the products placed on the market. KemI maintains a products register and a number of national databases. KemI assesses the risk of chemicals and handles permits to place pesticides on the Swedish market. In addition to work within the EU, KemI represents Sweden in worldwide cooperative work on chemicals, taking a frontline role in the work to introduce the global chemical strategy, SAICM.



The agency also has an important role in providing support to other countries. Since 1994, KemI has managed a number of bilateral projects in Eastern Europe, Africa, Asia and the Balkans, providing expertise in chemicals management, legislation, inspection, product registration and pesticides.

Under the programme, KemI has initiated the establishment of a Regional Chemicals Management Forum where government representatives and other stakeholder from Cambodia, Lao PDR, Myanmar, Thailand and Vietnam and invited experts meet on a regular basis to discuss chemicals management issues.

From mid 2014 to mid 2016, KemI has an expert placed in Bangkok, Thailand, to facilitate the internal coordination of the programme and work more actively with its implementation.

Food and Agriculture Organization of the United Nations

FAO leads the development of the international framework for the control of pesticides with the International Code of Conduct on Pesticide Management as the key reference instrument. Member Countries are assisted with capacity development for sustainable pest and pesticide management within the framework of sustainable intensification of crop production.



The FAO Asia Regional Integrated Pest Management/Pesticide Risk Reduction Programme, is the main Programme partner. It is based at the FAO Regional Office for Asia and the Pacific and supports governments and NGOs in capacity building for the development and application of IPM in smallholder crop production throughout the Asia region. It works closely with the Pesticide Risk Reduction Group at FAO Headquarters and the Regional Office's Crop Protection Programme, which both provide assistance to countries in strengthening regulatory control of pesticides.

The FAO Asia Regional Integrated Pest Management/Pesticide Risk Reduction Programme works directly with relevant government departments in the countries concerned in developing and implementing national IPM programmes backed up by government policy and local and national funding. The FAO Programme promotes the development and application of effective IPM strategies for pesticide risk reduction and supports National IPM Programmes in their important task of farmer education through the Farmers Field School approach.

Pesticide Action Network Asia and the Pacific

Pesticide Action Network Asia and the Pacific (PANAP) is one of the regional coordinating centres of PAN. This international coalition of public interests groups and people's movements work to reduce the reliance on pesticides, supports safe, sustainable pest management and promotes ecological agriculture. PAN has evolved a strong Asian perspective, linked to more than 150 groups, and works consistently with some 50 groups in 18 countries in the Asia Pacific region.



PANAP's Community based Pesticide Action Monitoring (CPAM) project is a comprehensive programme for awareness raising and empowerment of local communities. It simultaneously delivers valuable documentation for advocacy and networking at the national and international level. PANAP provides information, analysis and campaign materials for network partners.

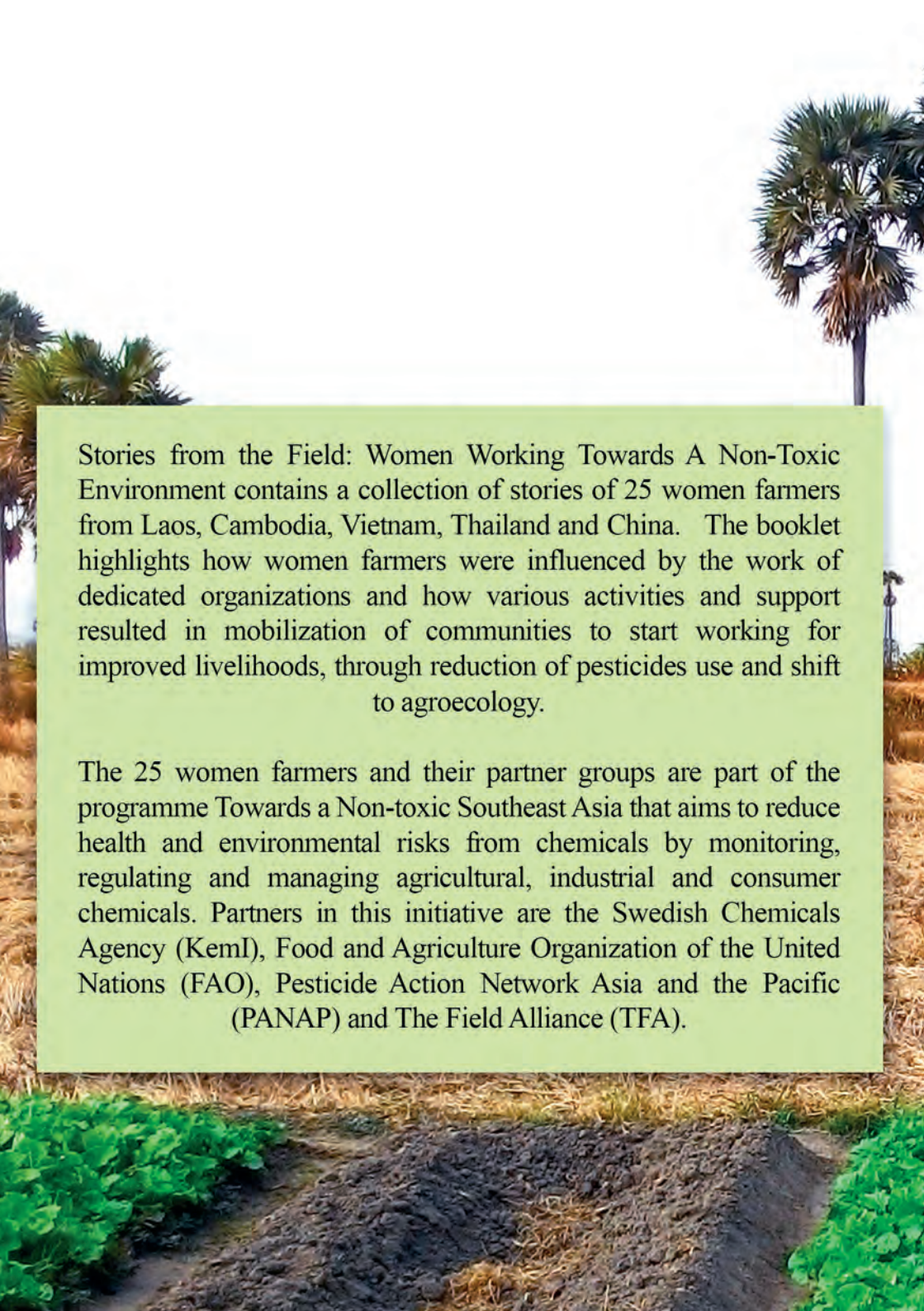
The organisation is actively involved in international initiatives like the Rotterdam and Stockholm conventions, the FAO Code of Conduct on the Distribution and Use of Pesticides and the policy framework SAICM. The empowerment of women is a conscious effort in all PANAP's work.

The Field Alliance

The Field Alliance (TFA) derives from the FAO Regional IPM Programme, which played a prominent role in capacity building for sustainable agriculture in Asia. What began as a pest control project became an umbrella for farmer-led experimentation, training, organising and advocating for a range of production and and community health issues, rural education and farmers' rights.



The vision, methods and expertise that drove the Regional IPM Programme are now the basis for an independent foundation dedicated to the empowerment of Asian farmers – The Field Alliance. One of the allied organisations, the Thai Education Foundation (TEF), has played a leading role in the development of environmental education programmes for school children based on the 'farmer field school' approach. Following the pilot activities in a number of Thai primary schools, similar programmes are currently implemented in Bangladesh, Cambodia, Lao PDR, Philippines, Thailand and Vietnam.



Stories from the Field: Women Working Towards A Non-Toxic Environment contains a collection of stories of 25 women farmers from Laos, Cambodia, Vietnam, Thailand and China. The booklet highlights how women farmers were influenced by the work of dedicated organizations and how various activities and support resulted in mobilization of communities to start working for improved livelihoods, through reduction of pesticides use and shift to agroecology.

The 25 women farmers and their partner groups are part of the programme Towards a Non-toxic Southeast Asia that aims to reduce health and environmental risks from chemicals by monitoring, regulating and managing agricultural, industrial and consumer chemicals. Partners in this initiative are the Swedish Chemicals Agency (KemI), Food and Agriculture Organization of the United Nations (FAO), Pesticide Action Network Asia and the Pacific (PANAP) and The Field Alliance (TFA).