

Towards green farming

Vegetable growers in Philippines' Loo Valley in Bugias municipality, Benguet province, learn Good Agricultural Practices, including the recycling of empty pesticide containers.



The empty container management pilot project in Loo Valley is starting to show results: the waterways are no longer littered with used pesticide containers. A vegetable gardener all her life, Lolina Lee, 56, is open to new ideas on how to increase her harvest and keep her village clean.

On the rolling hills of Philippines' Benguet province, farmers are hard at work tending to vast tracts of vegetables. Also known as the Salad Bowl of the Philippines, Benguet's farmers grow and supply most of the country's upland vegetables that are sold at markets in Metro Manila and other provinces. For years, empty pesticide containers used to clog the rivers of Benguet in the Cordillera mountain ranges: the result of farmers thrashing them indiscriminately after working in the fields. Today, the situation has improved in Loo Valley in Benguet's Bugias municipality. Thanks to a private-public partnership, farmers in Loo Valley have learnt responsible and environmentally friendly ways of recycling empty pesticide containers.

"I used to rinse empty pesticide bottles just once, and then pour the rinsate anywhere I pleased," says Constancio Pagaduan, Jr., 32, who has been farming in Loo Valley for the past 12 years. "Now I rinse the bottle three times and add the rinsate to the spray solution."

Pagaduan grows vegetables on half a hectare of land owned by his in-laws. His wife Patria, 32, helps with the weeding. The couple grows broccoli, carrots, white potatoes, and cabbage in rotation on the family farm. They also raise pigs to supplement the household income.

Pagaduan first learnt of the pilot Empty Container Management Pilot Project in his village in March 2009. The one-year project is a joint initiative by CropLife Philippines, the Fertilizer and Pesticide Authority, the Crop Protection Association of the Philippines and the Philippine Integrated Crop Management, local government units as well as waste disposal and recycling companies. The objective: sustainable agriculture and a better way of life for farmers.

The partners are committed to educating farmers on Good Agricultural Practices, including responsible pesticide use and empty container management. They have trained coordinators in all hamlets, or *sitios*, of Loo Valley to help ensure that farmers rinse empty pesticide containers three times before sending them to a recycling plant. A total of 500 farmers have participated in the project.

At Pagaduan's farm, family members send rinsed empty pesticide bottles to designated collection centers in the village. Prior to the project, most farmers including Pagaduan's wife, would sell the containers on an ad-hoc basis to junkshop owners who visit the farms monthly. The junkshops in turn sell the containers to recycling companies.

"There were earlier company-driven programs, but they were limited in scope and not sustainable," said Sim Cuyson, Executive Director of CropLife Philippines.

This is the first time that the whole industry plus key partners including the local governments, is involved in an empty container management project in a key vegetable growing area. Active involvement by the government is one of the pre-requisites for success.

"If this project is successful, it could be improved and duplicated in Benguet's other municipalities," Cuyson added.

Loo Valley, made up of 10 hamlets, is a village of Buguias, the biggest single vegetable-producing town of Benguet. Delino Dampilag, Sr., village chief of Loo Valley, describes his village as a compact, contiguous area of about 1,500 hectares planted with potato, cabbage, *Wong Bok*, or Chinese cabbage, sweet peas, carrots, leeks, and lettuce.

Success of the project in Loo Valley is boosted by a progressive-minded and receptive population of about 3,000 and committed local officials like Dampilag and Lolina Lee.

Lee, 56, grows sweet peas and *Wong Bok* on about 4,000 square meters of her 2-hectare farm. The chief of Pusong *sitio* and widow with four grown children is actively involved in the project. She has helped to spread the word on recycling and encouraged her constituents to bring empty pesticide containers to collection centers. She has also helped set up mini collection centers.

Cuyson said one success indicator would be acceptance of triple rinsing among farmers as a regular practice. Plastic pellets produced by the recycling company have been analyzed for pesticide residue.

"At the end of the pilot project, we will have established some baseline information that will hopefully allow us to evaluate our options in partnership with a major recycling company and come up with a sustainable mechanism for empty container management," he added.

"This could be linked to the community's materials recovery program or, depending on the residue results, we may opt to work with junkshops to improve their practices. Whatever decisions are made, they should evolve into sustainable practices." Cuyson said the recycled pesticide containers could then be used to make slipper soles, seeding trays and planter pots.

While more work needs to be done to change farmers' mindset about recycling, the project has seen initial success, Pagaduan said.

"The rivers used to be littered with empty containers. You don't see that happening now. We just need to keep working at it and be patient. Patience is what you need to succeed in farming and in keeping the environment clean."

At a glance

What: Empty Container Management Pilot Project

Where: Loo Valley, Buguias municipality, Benguet province, Philippines.

Why: To promote sustainable agriculture in a key vegetable growing area by training farmers on Good Agricultural Practices including the proper handling, storage, and transport of crop protection products and disposal of empty pesticide containers.

Partners:

- Fertilizer and Pesticide Authority
- CropLife Philippines
- Crop Protection Association of the Philippines
- Philippine Integrated Crop Management Association
- Loo Valley, Buguias municipality, Benguet (a Local Government Unit, or LGU)
- Integrated Waste Management
- Newfoundland Plastic Recyclers

When: January to December 2009

Key actions taken:

- Baseline survey on current practices and attitudes.
- Training on the triple rinse method and other proper container handling practices.
- Communication campaign through farmers' meetings and posters.
- Retrieval of containers from farms in Loo Valley.
- Turnover of recyclable containers to a recycling company; all others to an incineration plant.
- Pellets produced by recycling company and end-products to be subjected to multi-residue analysis.

Results:

- Triple rinsing is regularly practiced by farmers.
- Rivers and other waterways free of empty containers.
- At the time of going to press (September 2009), the partners have collected about a ton of empty containers. The target for 12 months ending December 2009 is 5 tons.



About CropLife Asia:

CropLife Asia promotes the benefits and responsible use of crop protection and plant biotechnology products, as well as sound regulatory frameworks in support of sustainable agriculture in the Asia Pacific region. As a regional unit of CropLife International – a global federation of the plant science industry in 91 countries – CropLife Asia supports the work of 15 member associations and is led by member companies at the forefront of crop production research and development.

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