

This bulletin provides information about application of AVRDC's technologies in the field and other topics of interest regarding vegetable production and consumption constraints around the world. It is issued quarterly. We welcome everyone to share any interesting news about vegetables – please send a short article with photos to [tech\\_dissemination@worldveg.org](mailto:tech_dissemination@worldveg.org). Thank you!

## Vegetable gardens to build Myanmar's agricultural livelihood resilience in flood-affected areas



Flooding occurs every year in Myanmar and it was severe in July to September 2015. Thabaung Township is one of the areas that often suffers from floods (**below right**), so World Vision International - Myanmar implemented a home gardening project to address food shortages and especially inadequate vegetable consumption (**top & below left**)

From July to September 2015, Myanmar suffered from severe flooding. Heavy rains caused a substantial rise in monsoonal floodwaters in 12 regions/states, with Ayeyarwady, Sagaing, Magway, Bago, Rakhine, Yangon and Chin being the most affected in terms of numbers of displaced people. Most villages in these regions/states reported that a large portion of their agricultural land was affected by the floods, especially in Ayeyarwady, Bago and Rakhine, where almost 400,000 ha of land was flooded, "resulting in severe damage to cultivated crops, particularly rice", according to the

Agriculture and Livelihood Flood Impact Assessment in Myanmar conducted by the Myanmar government, Food and Agriculture Organization (FAO) and World Food Programme (WFP).

Farmers in Myanmar suffered severe crop loss due to the flooding. "Of the overall crop area





Interacting with landless female farmers to understand their challenges (**left**) and visiting villages in World Vision International – Myanmar's home gardening campaign (**right**) in Thabaung Township during the scoping trip

fully destroyed by the floods, 79% was monsoon paddy, followed by 15% consisting of vegetables, perennial and oilseed crops, 4% with sesame crops, and 1% with cereal crops and pulses," according to the assessment. There are also serious concerns with food security. "In most of the affected areas, subsistence farmers and casual workers generally reduce the quantity of food in their diets as staple food becomes less available and more expensive in local markets," the assessment stated.

To further understand post-flooding situations in the field and to explore a potential partnership between AVRDC and World Vision International - Myanmar (WVM), a scoping visit to Thabaung Township was conducted in November 2015 with the WVM local team's guidance. WVM has been operating in Myanmar since 1960. It is one of the largest NGOs in Myanmar, with over 750 full-time staff and 3,000 volunteers who work across 11 of Myanmar's 14 states and regions.

According to WVM's evaluation results in Thabaung Township, only 15.7% of households regularly consume vegetables since vegetables are not easily accessible. Vegetables are mainly purchased from other townships and are expensive. Rice is the main local crop and local farmers have much less experience with vegetable farming. Land is also a critical issue in Thabaung. "While 35% of households are farming, 45.7% of households are landless and work as casual laborers in Thabaung. They are in the list of the most vulnerable," said Thet Paing Phy, WVM Area Development Programme (ADP) Manager.

**Source:**

Jui-Kai Li, Office of the Deputy Director General-Research, Greg Luther, Global Technology Dissemination, AVRDC – The World Vegetable Center; Thet Paing Phy, World Vision International - Myanmar

**Photos:**

Jui-kai Li, Greg Luther, AVRDC-The World Vegetable Center; Thet Paing Phy, Soe Chit Oo, World Vision International - Myanmar

To combat malnutrition and micronutrient deficiencies, WVM is facilitating year-round home gardening in rural communities of Thabaung Township to fill the gap and promote vegetable consumption, especially for households with children under 5 years old. To solve land access constraints, WVM has also arranged vegetable farming opportunities for optimal land use to create income-earning opportunities for three months a year, especially for casual workers and school dropout children from the most vulnerable landless families.

After consultation with WVM's national office team in Yangon, WVM and AVRDC discussed the possibilities of AVRDC providing training to local communities on seed production and storage, pest management and other aspects of vegetable crop management. AVRDC-improved pepper lines that are tolerant and moderately resistant to anthracnose could potentially be introduced into local communities to overcome production constraints due to this disease.

Reliable local sources of vegetable seeds are needed to ensure sustainability of home gardens after the project has concluded, and community seed banks are a potential effective intervention to address this. To solve land constraint issues during flooding, vertical gardening designs and use of pots are recommended so that home gardens will function year-round. After the floods subside each year, kangkong/ water spinach, jute mallow and Malabar spinach can be planted in waterlogged soils to extend the present home gardening period.

## Feedback from stakeholders in an agricultural innovation platform in Nan province, Thailand



The upland regions in Nan province are largely covered by maize (**top**); bare hillsides are the common scene after harvesting the maize (**below**)

Nan is one of the northern provinces of Thailand and borders Laos. It is located mainly on a high plateau with hilly topographical features. Most families in Nan are engaged in agriculture and major cash crops are maize, tobacco, cotton, sesame, lychee and tangerines, with all being grown in a monocropping system. Around 40% of the Gross Provincial Product in Nan comes from the agriculture sector. Despite the agriculture sector having the dominant role in Nan, it is still facing a wide range of challenges, including lack of community forest information, low agricultural income, inadequate farming education, degrading fields, declining yields, insufficient water supply in the dry season and extensive flooding during the rainy season. In addition, rice production is rapidly shifting to maize cultivation, with the latter being used as fodder for livestock, and this has become the most crucial problem for the upland regions of Nan.

To understand all these problems thoroughly and diagnose various solutions, an innovation platform (IP) was established in Nan and implemented via the CGIAR funded Humidtropics



project. IPs are established to help stakeholders who engage in these platforms. A study was carried out to identify the needs, interests and priorities of stakeholders, and the conflicts and common goals among stakeholders. The study was conducted in five districts of Nan and a total of 56



Interviewing the first focus group (left) and the second focus group (right) who shifted from maize monocropping to diversified farming systems in Santisuk district of Nan Province, Thailand

participants from international organizations, Thai universities/other educational institutions, governmental organizations, non-governmental organizations, private organizations and farmers were interviewed and surveyed. Among the participants, 38 were surveyed through in-depth interviews and 18 were farmers who were separated into three groups for conducting focus group discussions (FGDs). Twenty-nine participants were involved in Q methodology interviews which help to illustrate the priorities of stakeholders by eliciting their rankings of statements which clarify the stakeholders' subjective opinions. The data were collected from July to August 2014.

The results show that farmer's needs and priorities are input supply, marketing channels, knowledge in agricultural techniques and land entitlement. Farmers do not have enough capital and inputs to support their farms. Alternative marketing channels can enable farmers to sell their produce after harvest. Furthermore, knowledge and techniques on pest and disease control, animal breeding and marketing are also needed. Farm sustainability is the priority for farmers in Nan. Farmers think that diversified farming provides direct benefits to them and their environment as it allows people to engage in sustainable agriculture to raise the standard of living and restore the forests. Therefore, farmers would

like to shift from monocropping to a diversified farming system, which is strongly agreed upon by a majority of the stakeholders. Encouraging farmers to grow their own food through home gardening is also supported.

The results of the Q methodology also show that environmental conditions stand out as another critical issue in Nan. Degradation of the natural environment is exacerbated by damaging farming practices such as slash and burn, monoculture, chemical pesticide abuse, destruction of upstream areas and deforestation.

This study shows that diversified agriculture, fund raising, reforestation and beneficial research are the common goals among stakeholders. However, there were various conflicting interests among stakeholders, including land ownership issues, self-actualization, pesticide use and the role of each participant.

Based on the findings of this study, recommendations include (1) conducting regular meetings, (2) IP members' full participation and their voices being equally heard, and (3) direct benefits to the local communities, to ensure that the innovation platform will be more effective with more positive results in the future.

**Source and photos:**

Daranrat Jaitiang, Masters Graduate from National Chung Hsing University; Chifumi Takagi, Assistant Professor of the College of Agriculture and National Resources, National Chung Hsing University, Taiwan

**AVRDC - The World Vegetable Center**

Global Technology Dissemination  
P.O. Box 42, Shanhua, Tainan 74199  
Taiwan

T +886 6 5837801  
F +886 6 5830009  
E tech\_dissemination@worldveg.org  
I avrdc.org

Facebook: <http://www.facebook.com/pages/Feedback-from-the-Field/169530259752510>

**Editors:** Mandy Lin and Greg Luther, Global Technology Dissemination

**Layout:** Vanna Liu, Communications & Information