

## COURSE REPORT

# RAINFORESTATION TRAINING FOR CLIMATE-RESILIENT RECOVERY

August 2-4, 2018  
Naval, Biliran, Philippines

A course organized by:  
Environmental Leadership & Training Initiative (ELTI)  
Institute of Tropical Ecology and Environmental Management of Visayas State University (ITEEM-VSU)  
Naval State University (NSU)



Dr. Marlito Bande discussing the performance of Philippine Native Trees against strong winds and flooding.

**Background:** In December 2017, Biliran, an island-province in the Eastern Visayas, was struck by Tropical Storm Urduja (international name: Kai-Tak). Biliran was declared under a state of calamity due to flooding, landslides, and infrastructure damage. Damage to agriculture, which comprises 55% of the total land area, was extensive. In Naval, a municipality in Biliran that was most affected by landslides, over a thousand hectares of rice and corn fields were wiped out. Many municipalities were also concerned about the impact of the landslides on their watershed areas and the supply of water.

ELTI is an initiative of: **Yale SCHOOL OF FORESTRY & ENVIRONMENTAL STUDIES**



Participants developing their individual Rainforestation farm plans.

Areas affected by extreme weather events are increasingly looking for farming and restoration strategies that are climate-resilient. These strategies are designed to decrease the sensitivity of the region to future typhoons and other natural disasters, which are expected to grow in frequency and intensity with climate change, and allow the local communities to return to a normal state as soon as possible after the event. The ultimate goal is to protect the sustainability of human livelihoods and the ecosystem services, like a steady supply of clean water, upon which they are dependent.

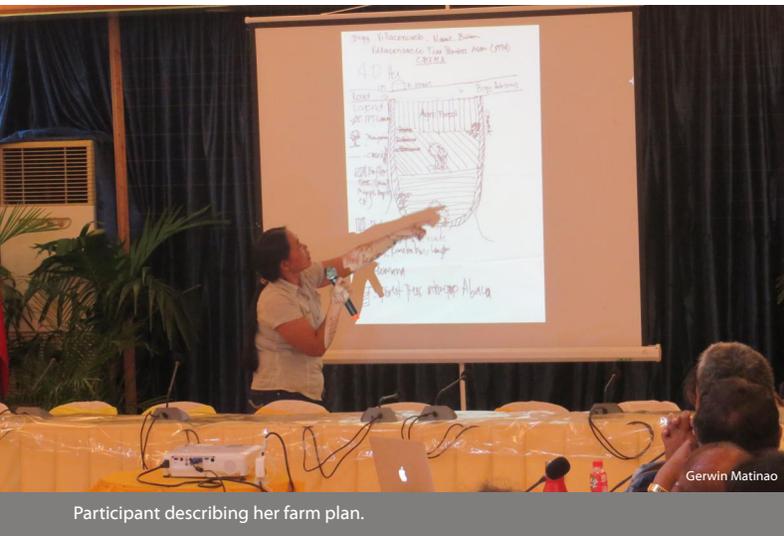
ELTI and ITEEM-VSU are assisting local government units and community members in Biliran to rehabilitate watersheds and restore degraded lands affected by the landslides by implementing Rainforestation. Rainforestation is a participatory, reforestation/agro-forestry strategy developed by Visayas State University (VSU) and the German Society for International Cooperation (GIZ, formerly GTZ) in the early 1990s that aims to support local communities' agriculture and forest-based livelihoods, while also preserving biodiversity and providing a more optimum supply of ecosystem services. Rainforestation highlights the use of a mixture of native species, which are more resilient when affected by extreme weather events.

### **Objectives:**

The specific aims of this training course were as follows:

1. To provide participants with a solid understanding of the principles of Rainforestation and its application in different ecological and social contexts;
2. To provide participants with a basic understanding of forest ecology and natural succession, and an array of restoration and sustainable farming strategies;
3. To guide participants through the process of designing farm and watershed management plans based on site-specific factors and user needs; and
4. To teach participants the process and practice of establishing a Rainforestation site through hands-on experiential learning.

**Course Format:** The training was held at Naval State University (NSU) in Biliran. NSU was chosen as the site of the training because it is located relatively close to 3 local government units which are interested in rehabilitating their watershed areas affected by landslides.



Participant describing her farm plan.



Participants preparing potting mixes.



Participants constructing a temporary nursery.

## Program

### Day 1

The training started with a formal Opening Program, including a prayer, the Philippines National Anthem, an introduction of participants, a Welcome Message by Dr. Victor Cañez, Jr. (University President of NSU), and an inspirational message and leveling of expectations by Dr. Efren Saz, (VSU Director for Extension). The training then continued with a presentation on Philippine biodiversity by Ms. Lyra Chu (ELTI Philippines Program Assistant), which highlighted the status of the Philippines as a biodiversity hotspot, outlined the 12 primary forest formations found throughout the country, discussed the economic value of the ecosystem services provided by Philippine forests, and highlighted the use of Philippine native trees for climate change mitigation and adaptation. Dr. Guinaldo Fernandez, Jr. (Head of VSU Department of Liberal Arts & Behavioral Sciences) then highlighted the importance of sustainable environmental management in avoiding natural resource conflicts by discussing research recently conducted with farmers and fishers in Pilar, Camotes. Ms. Angelita Orias (Lecturer at VSU-ITEEM) then described the drivers of deforestation, the origins and main objectives of Rainforestation, and the process of Rainforestation site establishment. She also provided some success stories of Rainforestation adopters.

After lunch, Dr. Marlito Bande (Director of ITEEM-VSU) gave a presentation on "Rainforestation Farming: Conservation Agriculture with Native Trees as an Alternative Option of Agroforestry Systems in the Philippine Uplands" which presented challenges in the tropical uplands (e.g., soil quality, inappropriate farming practices, climate change, etc.) and described several approaches on integrating economically valuable crops, like abaca and cacao, with local forest trees. Engr. Jimmy Pogosa (Lecturer at VSU-ITEEM) then gave a presentation that covered nursery establishment, fruiting phenology, seed



Participants transplanting wildlings to polybags during training fieldwork.



Participants installing a recovery chamber for transplanted wildlings.



Participants planting native seedlings at the Rainforestation demonstration site in Cabucgayan.

treatment, collection of wildlings, and the development of a recovery chamber. Afterwards, Dr. Marlito Bande gave a lecture on the propagation of native and endangered plants for forest restoration and shared the results of research conducted by ITEEM in producing high quality planting materials which is essential to ensuring the survival of the seedlings upon transplanting.

## Day 2

The second day of the training started with a recap of the topics discussed during the first day. Ms. Angelita Orias then gave a short lecture about using the Response-Induced Sustainability Evaluation (RISE) tool, a monitoring methodology that can be very useful for participants from the environmental or agricultural offices of the invited municipalities. Engr. Jimmy Pogosa then showed a farm assessment that ITEEM had conducted in Hindang, Leyte, which used the RISE tool to plan the development of a Rainforestation site. Afterwards, the participants broke into small groups in order to develop their own individual Rainforestation farm plans or Watershed rehabilitation plan for the participants from the municipal government, which they then presented to the larger group for course instructors to provide feedback. Dr. Marlito Bande then showed the results of additional research conducted by ITEEM at a research site in Inopacan, Leyte. Afterwards, Ms. Lyra Chu gave a presentation on the ELTI Leadership Program.

## Day 3

The third and final day of the training was comprised of a site visit to a Rainforestation demonstration site in Cabucgayan, Biliran, which is 30 minute drive away from the training venue. Upon arrival at the demonstration site, Engr. Jimmy Pogosa led hands-on activities geared towards teaching participants how to start their own nursery. Participants first learned how to prepare potting mixes. Participants then prepared the polybags and constructed a temporary nursery. ITEEM-VSU brought wildlings of Dao (*Dracontomelon dao*) collected from the VSU



Dr. Marlito Bande conducting a tour for the participants at the Rainforestation demonstration site in Cabucgayan, Biliran.

Rainforestation site which the participants transplanted into the polybags and installed in a recovery chamber. After the demonstration of techniques, the participants planted 80 native tree species seedlings (*Anisoptera thurifera*, *Hopea plagata*, *Parashorea malaanonan*) at the Coconut-Dipterocarp integration area of the demonstration site. The participants were then given a tour by Dr. Marlito Bande of the Rainforestation farming and abaca & coconut tree-based agroecological production system in the area since it's important for participants to see these early stage Rainforestation sites so they have a realistic expectation about how quickly the trees will grow. The training ended with closing messages by Ms. Lyra Chu, Dr. Efren Saz, and Dr. Marlito Bande.

### **Participants:**

The training was attended by 38 participants from Naval State University and the municipal governments of Naval, Almeria, and Kawayan.

### **Follow-up:**

ITEEM-VSU and ELTI will continue to work with the training participants to establish their Rainforestation sites. Once the Rainforestation sites of the participants are finalized, ITEEM-VSU and ELTI will assist with the monitoring of those sites. The participants also mentioned during the training that they aim to get the support of the Governor of Biliran so that Rainforestation will be mainstreamed in the whole province.

*This event was possible thanks to Arcadia, whose Environmental Conservation grants support programmes that protect and enhance biodiversity, and provide field training and academic research.*