Environmental Leadership & Training Initiative

COURSE REPORT

III International Course on Agroecology and Ecological Restoration: Resilience to Climate Change

ELTI Permanent Training Sites:
El Hatico Nature Reserve, El Cerrito, Valle del Cauca, Colombia
Community of Bellavista, El Dovio, Valle del Cauca, Colombia
July 24-28, 2017

A field course organized by:
The Environmental Leadership and Training Initiative (ELTI), Center for Research on Sustainable Agricultural Production Systems (CIPAV), Latin American Society of Agroecology (SOCLA), and El Hatico Nature Reserve.

Participants of the III International Course on Agroecology and Ecological Restoration.

Background: The rural landscapes of Latin America face the challenge of adapting to climate change while providing food and ecosystem services for a growing population. Resilient agroecosystems are those capable of recovering their structure and function after disturbances such as droughts, frosts, hurricanes, floods and other extreme events. Such resiliency can be strengthened through a combination of sustainable agricultural practices based on the principles of agroecology and the restoration of surrounding ecosystems to enhance biodiversity and ecosystem services.

This course presented the principles of agroecology and ecological restoration and explored the synergies between both disciplines for climate change adaptation. Course activities took place at two sites that combine

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

In collaboration with:
Smithsonian Tropical Research Institute PANAMA

Guided tour of El Hatico

vigorous farming systems with forest conservation and restoration initiatives in the Valle del Cauca, Colombia: El Hatico Nature Reserve (El Cerrito municipality) and the rural community of Bellavista (El Dovio municipality).

The course combined lectures on agroecology, ecological restoration and animal husbandry with field visits and a group exercise in which course participants were asked to apply the concepts learned throughout the course to solve a specific problem. Most lectures and field exercises took place at El Hatico Nature Reserve, ELTI's main focal training site in Colombia, an estate that has been managed by nine generations of a single family and is an international reference for sustainable agriculture. A one-day field trip to the community of Bellavista in the western Andes, illustrated applications of the principles of agroecology and forest restoration in small properties. ELTI alumni from this community coordinated and facilitated all field activities, and the preparation of a dinner with local organic products.

Objectives: The main objective of this course was to foster a conversation between agroecology and restoration, two disciplines that envision the transformation of farms and landscapes for the wellbeing of rural communities in a renewed relation with nature. The course was based on the following themes:

Agroecology

- Principles and applications
- Managing functional biodiversity in agroecosystems
- Transformation of conventional agriculture

Ecological Restoration

- Principles and applications
- Restoring agricultural landscapes

Examples and case studies of Agroecological Restoration

- Resilience to climate change
- Sustainable cattle ranching
- Organic sugar cane
- El Hatico Nature Reserve
- Participatory restoration at the rural community of Bellavista

Work group planning the agroecological production to feed 700 visitors at El Hatico with Miguel Altieri.

Jeep tour to Bellavista (municipality of El Dovio).

Field-course format: This course combined short presentations of pilot farms and projects with lectures, a guided tour of El Hatico, a group project, a field trip that included practical exercises and a concert of Latin American music. All meals were prepared with local and organic ingredients purchased directly from small farmers, and were designed to reflect the principles of agroecology.

Day 1, Monday, July 24

The first day began with a presentation of participants and the course agenda, followed by a talk in which Juan José Molina (member of the ninth generation of owners of El Hatico), explained this private reserve's approach to restoration and sustainable food production. After that, Miguel Altieri introduced the principles and applications of agroecology, and ELTI's Colombia coordinator, Zoraida Calle, made a presentation about ecological restoration in agricultural landscapes.

During the afternoon, the group was divided into five sub-groups for a guided tour of the silvopastoral systems, living fences, sheep, organic sugar cane and the restored biological corridor of El Hatico. Participants were encouraged to identify and rate the principles of agroecology that were exemplified at each station. All groups observed the complex silvopastoral systems that form a wildlife friendly agricultural matrix and analyzed the role that functional biodiversity and animal welfare play in the enhanced milk production of these systems. They also observed the results of a forest restoration initiative that began two decades ago.

After the field visit, four course participants made presentations of their pilot farms, highlighting their own experiences of agroecology and restoration.

Day 2, Tuesday, July 25

The morning session began with another series of presentations of pilot cattle farms, followed by a lecture on agroecology and biodiversity by Clara Nicholls, and an interesting presentation on sustainable livestock production, in which Enrique Murgueitio explained how agroecology and restoration relate to animal husbandry.

Planting bore (*Alocasia macrorrhiza*) at El Vergel farm

After that, participants worked for three hours on group projects focused on five issues at El Hatico:

- Restoration of a low-diversity secondary forest
- Recycling of manure and wood for agroecological food production and restoration
- Planning agroecological food production to feed 700 visitors at El Hatico
- Natural biological control in silvopastoral systems
- Tree management (pruning and thinning) in silvopastoral systems

Each group included one course instructor, a member of the Molina family (owners of El Hatico) and 8 course participants.

After the group work session, PhD candidate Alicia Calle presented four case studies of farms that integrate silvopastoral systems to ecological restoration, with detailed data that illustrate positive land-use change, and Zoraida Calle presented the results of participatory research for ecological restoration, done in collaboration between CIPAV researchers and young co-researchers from the community of Bellavista. The last presentations of the day were done by the Chilean participants, who introduced contrasting challenges and contexts for ecological restoration and agroecological food production.

Day 3, Wednesday, July 26

The day began with lectures on the adoption of agroecological practices in conventional agriculture, by Miguel Altieri, and resilience to climate change, by Clara Nicholls. After this, the work groups had a two hour session to work on their projects in the field.

After lunch, the group travelled to the municipality of El Dovio, with a strategic stop at the highest point where the road crosses the Western Andes. At this stop Enrique Murgueitio explained the climate and geography of the Valle del Cauca region and its implications on the distribution of life zones and biodiversity. Enrique also explained the land use history of the region and its social and economic drivers.

Planting pineapple in contour lines for erosion control at Alonso Carmona's farm.

Cattle rancher and community leader Blanca Raquel Guerrero shares her moving story of displacement, hope and resilience.

The group stayed at Las Hojas hotel in El Dovio, where Eudaly Giraldo made a presentation about the 25-year process of participatory research for food sovereignty and restoration in the community of Bellavista, and explained how research contributed to the creation of community groups and the empowerment of farmers. A very nice traditional dinner was prepared by women from El Dovio, using local ingredients and undervalued genetic resources. This was followed by a performance of folk music and dance.

Day 4, Thursday, July 27

The day began very early with the jeep tour to Bellavista. After breakfast, the group was divided into subgroups, which rotated through four small farms. On each one-hour farm visit, participants observed polycultures, agroforestry systems and restored riparian forests, and were involved in practical activities such as planting wax palms (*Ceroxylon alpinum*), arracacha (*Arracacia xanthorrhiza*, an Andean root vegetable), bore (*Alocasia macrorrhiza*, a fodder species, useful in riparian restoration), and pineapple in contour lines for erosion control.

After lunch, the farmers of Bellavista shared their experience in forming the CAMPAB group and managing their own revolving fund for small projects; and the Heirs of the Planet group discussed their restoration experience, and showed their small forest reserve. At 4:00 p.m. the group returned to El Dovio and El Hatico.

Day 5, Friday, July 28

The last day began with the institutional presentation of ELTI and its Leadership Program. Then course participants had time to finish the group projects and prepare their presentations for the plenary session.

This was followed by a group discussion on the synergies between agroecology and restoration, based on the observations made at El Hatico and Bellavista, as well as group presentations. Finally, the group visited El Hatico's emblematic samán tree (*Albizia saman*) with Carlos Hernán Molina, who has shared his whole life with this beautiful rain tree. The course closed with a Latin American music concert and dinner.

Group discussion on the synergies between agroecology and ecological restoration

Participants: This field course was announced in ELTI's, CIPAV's and SOCLA's web pages, and the 39 individuals selected to attend it represented farmers, NGOs and academia from Colombia, Chile, Guatemala, Mexico, UK and US. Two thirds of the participants were professionals, extension workers and pilot farm owners involved in the *Mainstreaming Biodiversity in Sustainable Cattle Ranching Project* in Colombia (Proyecto Ganadería Colombiana Sostenible)[1]. A group of nine farmers and teachers from Chile joined the course with partial support from the Chilean government.

Instructors

- Zoraida Calle, ELTI (Colombia Program) and CIPAV, Colombia
- Enrique Murgueitio, CIPAV, Colombia
- Miguel Altieri, University of California (Berkeley)
- Clara Nicholls, University of California (Berkeley)
- Alicia Calle, University of California (Santa Cruz)
- Carlos Hernán Molina, El Hatico Reserve, Colombia
- Carlos Hernando Molina, El Hatico Reserve, Colombia
- Enrique José Molina, El Hatico Reserve, Colombia
- Juan José Molina, El Hatico Reserve, Colombia
- Julián Andrés Giraldo, CIPAV (ELTI alumn), Colombia
- Adriana Giraldo, CIPAV (ELTI alumna), Colombia
- Nelly Victoria Giraldo, CIPAV (ELTI alumna), Colombia
- Eudaly Giraldo, Ramiro Giraldo, Gilberto Giraldo and Alonso Carmona, Community of Bellavista (El Dovio, Colombia)

Outcomes and Follow-up:

Course participants showed great motivation during all lectures, field visits, group discussions and exercises. The diverse perspectives and experiences from farmers and professionals of tropical, subtropical and temperate countries enriched the dialogue between agroecology and restoration. Participants rated the course with an average of 4.86 (out of 5), and proposed a new theme for future courses: *Agroecological Restoration, transforming agriculture to heal nature, and restoring nature to enhance agriculture*.

1. This project promotes the adoption of environmentally friendly silvopastoral systems (SPS) that enhance farm productivity, natural resource management and the delivery of environmental services in five Colombian landscapes. Project partners are the GEF, Department of Business, Energy & Industrial Strategy (UK), The World Bank, Fedegan, The Nature Conservancy, CIPAV and Fondo Acción. Pilot farm owners work actively in farmer to farmer training and therefore play a key role in scaling-up the adoption of SSP and ecological restoration practices, and in promoting cultural change towards sustainable livestock production.

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