COURSE REPORT

V International Course on Agroecological Restoration: Resilience to Climate Change

ELTI Permanent Training Landscapes:

- **El Hatico Nature Reserve, El Cerrito, Valle del Cauca, Colombia**
- **Community of Bellavista, El Dovio, Valle del Cauca, Colombia**

July 22-26, 2019

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

Participants of the V International Course on Agroecological Restoration.

Background

Latin American countries face the challenge of adapting to climate change while providing food and ecosystem services for a growing population. Resilient agroecosystems and rural landscapes will be better prepared to recover from different natural and human-induced disturbances. Such resiliency can be strengthened through a combination of sustainable agriculture based on the principles of agroecology and restoration practices that enhance biodiversity and ecosystem services.

ELTI is an initiative of:

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El Hatico Nature Reserve (top) and Bellavista community, El Dovio (bottom).

Agroecological restoration is an active dialogue between disciplines that builds on the principles and values of agroecology and ecological restoration to promote the production of healthy food in revitalized landscapes. This integrative discipline seeks to transform farms and agricultural landscapes for the well-being of rural and urban communities and ecosystems.

This course presented the principles of agroecology and ecological restoration and explored the complementarities and synergies between both disciplines. Course activities took place at two sites that showcase innovative farming systems together 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 sustainable livestock production with the presentation of case studies, field visits and a group exercise in which participants explored a specific research topic related to the concepts learned throughout the course. Most lectures and field exercises took place at El Hatico Nature Reserve (ELTI's main permanent 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 and silvopastoral systems. 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 an *agro-biodiversity dinner* with local organic ingredients.

Objectives

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

Observation of intensive silvopastoral systems at El Hatico.

Principles and applications of agroecology and ecological restoration

- Transformation of conventional agriculture
- Functional biodiversity in agroecosystems
- Sustainable cattle ranching
- Restoration in agricultural landscapes
- Strengthening resilience to climate change

Examples and case studies of Agroecological Restoration

- El Hatico Nature Reserve: silvopastoral systems, organic sugar cane and forest restoration
- Community of Bellavista: participatory research for sustainable farming and restoration
- Native plant strips for natural biological pest control in sugarcane plantations
- CET Yumbel (Bio Bio region, Chile): recovery of a highly degraded area after three decades of agroecological restoration

Field-course format

This course combined lectures with a guided tour of El Hatico, short presentations of participants, group projects, a field trip, practical exercises and a concert of Latin American music. The participation of composer Adolfo Cardozo as a trainer provided an opportunity to enjoy folk music from the Llanos of Venezuela and Colombia, and to discuss the role of traditional music in rural sustainability and restoration. Throughout the course all participants were involved in group projects designed to enhance restoration practices and sustainable farming at El Hatico.

Food was an essential part of the curriculum. Each meal served throughout the course was designed to celebrate ethical food production in rural communities. All food was locally and sustainably produced, and in some cases, organic. ELTI alumni from previous Agroecology & Restoration courses provided fruits, vegetables, cheese, yogurt and beans from their farms. Meat came from El Hatico's amazing silvopastoral systems. Other products were purchased at the local farmers' market.

Photo: Zoraida Calle

Forest restoration work group.

Day 1

The first day began with a presentation of the participants and course agenda, followed by a talk in which ELTI alumnus Bernardo Murgueitio explained the transformation of the agricultural landscape of the lower Amaime river basin, where El Hatico is located. Juan José and Carlos Hernando Molina (8th and 9th generation owners of El Hatico), explained this farm's approach to restoration and sustainable food production. After that, ELTI's Colombia coordinator, Zoraida Calle, gave a presentation about ecological restoration in agricultural landscapes. The morning session ended with the presentation of a case study entitled *CET Yumbel: three decades of agroecological restoration in the Chilean Bio Bio region*, by the invited lecturer Agustín Infante.

During the afternoon, the group was divided into five sub-groups for a guided tour of the silvopastoral systems, living fences, grazing sheep, organic sugar cane, the restored biological corridor and the forest trail 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, Miguel Altieri gave a lecture on the principles of agroecology.

Day 2

The morning session began with a lecture on agroecology and functional biodiversity by Clara Nicholls. This was complemented with the presentation of the case study *Agroecological restoration of sugar cane plantations: vegetation strips and natural biological pest control,* by the invited lecturer and entomologist, Leonardo Rivera. Following that, three participants made presentations about their farms and conservation projects, highlighting their own experiences of agroecology and restoration. Later, Enrique Murgueitio made an interesting presentation on sustainable livestock production, in which he explained how agroecology and restoration relate to animal husbandry.

After lunch, participants worked for four hours on group projects that focused on the following topics:

Functional biodiversity work group.

Field visit to the community of Bellavista (municipality of El Dovio).

- *Native plant strips and functional biodiversity in sugarcane plantations*; facilitated by Clara Nicholls, Leonardo Rivera and Carlos Hernando Molina
- *Secondary forest restoration*; facilitated by Zoraida Calle and Juan José Molina
- *Food sovereignty at El Hatico: designing and planting a vegetable garden*; facilitated by Miguel Altieri, Agustín Infante and Elsa Victoria Echeverri
- *Inventory of complementary resources for cattle and native bees*; facilitated by Adolfo Cardozo, Enrique Murgueitio and Enrique José Molina

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

After the group work session, composer and researcher Adolfo Cardozo illustrated the role of traditional music in agroecological restoration in a lecture interspersed with folk songs. The last talks of the day were presented by participants who introduced new challenges and contexts for ecological restoration and agroecological food production.

Day 3

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 subgroups worked for four hours on their field projects.

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

The group stayed at Las Hojas hotel in El Dovio, where ELTI alumnus Julián Giraldo presented the 26-year process of participatory research for food sovereignty and restoration in the community

Course participant Romina Ordoñez plants a wax palm in El Dovio.

Trainer Adolfo Cardozo and Heirs of the Planet group.

of Bellavista, and explained how research has empowered farmers, motivating them to form community organizations. An exceptional traditional dinner was prepared by a group of women from El Dovio using local ingredients and undervalued genetic resources. This celebration of agrobiodiversity, coordinated by ELTI alumna Nelly Victoria Giraldo, included a variety of ingredients that were new for most course participants.

Day 4

The day began early with a 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, endangered trees and pineapple in contour lines for erosion control.

After lunch, the farmers of Bellavista shared their experience in forming the CAMPAB community group and managing their own revolving fund for small projects. The field day at El Dovio ended with a presentation of the children and youth that work together in the *Bellavista's Heirs of the Planet group.*

Day 5

The last day began with the institutional presentation of ELTI and its Leadership Program. Course participants dedicated the next hours to finish their group projects and present them at a 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. Finally, the group visited El Hatico's emblematic rain tree *Albizia saman* with Carlos Hernán Molina (7th generation owner), who has shared nine decades with this beautiful tree. The course closed with a Latin American music concert and dinner.

Photo: Zoraida Calle

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. The 19 individuals selected to attend it represented farmers, non-government organizations, a multilateral bank, research institutes and academia from Colombia, Venezuela, Chile, Argentina, Brazil, Cuba, Puerto Rico and USA. Five participants were professionals, extension workers and a pilot farm owner involved in the *Colombian Sustainable Cattle Ranching Project* (Proyecto Ganadería Colombiana Sostenible)[1].

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)
- Adolfo Cardozo, CENDI (Venezuela) and CIPAV

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.

- Leonardo Rivera, Biodiverse Sugarcane Project, Cenicaña
- Agustín Infante, CET Yumbel (Chile)
- Carlos Hernán Molina, El Hatico Nature Reserve, Colombia
- Carlos Hernando Molina, El Hatico Nature Reserve, Colombia
- Enrique José Molina, El Hatico Nature Reserve, Colombia
- Juan José Molina, El Hatico Nature Reserve, Colombia
- Julián Andrés Giraldo (ELTI alumnus), CIPAV, Colombia
- Nelly Victoria Giraldo (ELTI alumna), CIPAV, Colombia
- 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.

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