

COURSE REPORT

IV International Course on Agroecological 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 23-27, 2018

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 IV International Course on Agroecological Restoration.

Background

Latin American rural landscapes must adapt 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 natural and human-induced disturbances. Such resiliency can be strengthened through a combination of sustainable agriculture based on the principles of agroecology and restorative practices that enhance biodiversity and ecosystem services.

Agroecological restoration is an active dialogue 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 in a renewed relation of reciprocity with nature.

ELTI is an initiative of:

Yale SCHOOL OF FORESTRY &
ENVIRONMENTAL STUDIES



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, 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 field visits and a group exercise in which 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 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. 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 *agrobiodiversity 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:

Principles and applications of agroecology and ecological restoration

- Transformation of conventional agriculture
- Functional biodiversity in agroecosystems
- Sustainable cattle ranching
- Restoring 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



Guided tour of El Hatico, with music.

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 sustainable farming and restoration practices 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 (and one trainer) provided fruits, vegetables, wheat, cheese, yogurt, beans and fish from their farms. Meat came from El Hatico's amazing silvopastoral systems. Other products were purchased at the local farmers' market.

Day 1

The first day began with a presentation of the participants and course agenda, followed by a talk in which 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, Miguel Altieri introduced the principles of agroecology, and ELTI's Colombia coordinator, Zoraida Calle, gave 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, grazing sheep, organic sugar cane, the restored biological corridor



Photo: Enrique Murgueta

"Biological control in silvopastoral systems" work group.

and the new 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, three participants made presentations of their farms and conservation projects, highlighting their own experiences of agroecology and restoration.

Day 2

The morning session began with another series of presentations made by course participants, followed by a lecture on agroecology and functional biodiversity by Clara Nicholls, and an interesting presentation on sustainable livestock production, in which Enrique Murgueta explained how agroecology and restoration relate to animal husbandry. After that, participants worked for three hours on group projects that focused on the following issues:

- Natural biological control in silvopastoral systems;
- Secondary forest restoration;
- Designing and planting a vegetable garden;
- Planning the use of livestock manure and charcoal in farming and restoration, and
- Integrating native stingless bees and honey bees into silvopastoral systems (perm-apiculture).

Each group included 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



Photo: Zoraida Calle

"Biological control in silvopastoral systems" work group.



were presented by participants who introduced new challenges and contexts for ecological restoration and agroecological food production.

Day 3

The day began with a short talk in which Zoraida Calle presented the results of participatory research for ecological restoration, done in collaboration between CIPAV and young co-researchers from the community of Bellavista. This was followed by 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 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 land use history of the region and its social and economic drivers.

The group stayed at Las Hojas hotel in El Dovio, where ELTI alumna Adriana Giraldo presented the 25-year process of participatory research for food sovereignty and restoration in the community of Bellavista, and explained how research contributed to forming community groups and empowering farmers. A very nice traditional dinner was prepared by a group of women from El Dovio using local ingredients and undervalued genetic resources. This celebration of agrobiodiversity included a variety of ingredients that were new for most course participants. The day ended with a performance of folk music.



Karen Ayala plants a wax palm in an agroforestry system.

Photo: Zoraida Calle



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

Photo: Zoraida Calle

Day 4

The day began early with a jeep tour to Bellavista. After breakfast, the group was divided into sub-groups, 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 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 *Heirs of Bellavista* group. Each group member explained the farming, conservation and restoration activities that take place at their family's property. Participants were deeply moved by the pride with which the young Heirs presented their farms, and by the story of a young lady who runs a farm by herself after her family moved to a nearby town. Afterwards, the group returned to El Dovio and El Hatico.

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.



Participants of the IV International Course on Agroecological Restoration.

Participants

This field course was announced in ELTI's, CIPAV's and SOCLA's web pages. The 25 individuals selected to attend it represented farmers, nature reserve owners, NGOs, private companies and academia from Colombia, Panama, Venezuela, Chile, Argentina, Brazil, Cuba and Canada. Fifteen participants had attended the *II Silvopastoral Heirs Workshop* that took place during the previous week. Five participants were professionals and pilot farm owners involved in the *Mainstreaming Biodiversity in Sustainable Cattle Ranching Project* in Colombia (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)
- René Zazueta, University of California (Berkeley)
- Adolfo Cardozo, CENDI (Venezuela) and CIPAV

1. The Mainstreaming Biodiversity in Sustainable Cattle Ranching Project (GCS Ganadería Colombiana Sostenible) promotes the adoption of environmentally friendly silvopastoral systems (SSP) that enhance farm productivity, natural resource management and the delivery of environmental services. Project partners are the GEF, Department of Business, Energy & Industrial Strategy (UK), The World Bank, Fedegan, The Nature Conservancy, CIPAV and Fondo Acción. This initiative seeks to scale up SSP and integrate them with ecological conservation and restoration in five Colombian landscapes: Cesar River valley and lower Magdalena in the dry Caribbean region; Andean Oak Corridor in Boyacá and Santander; the Coffee Ecoregion and the eastern Andes foothills in Meta department. 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.



"Carlos Hernán Molina, 7th generation owner of El Hatico Nature Reserve, shares his poem dedicated to the rain tree".

- 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
- Adriana Giraldo (ELTI alumna), 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 15 adults and teenagers who had previously attended the *Il Silvopastoral Heirs Workshop* made excellent contributions to the field course. The diverse perspectives and experiences from nature reserve owners, 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.