



Environmental
Leadership &
Training Initiative

COURSE REPORT

Silvopastoral Systems February 7 - March 14, 2022

An online course organized by:

The Environmental Leadership & Training Initiative (ELTI)
Center for Research on Sustainable Agricultural Production Systems (CIPAV)

Background: During the last five centuries, conventional cattle ranching has transformed ecosystems throughout Latin America, with negative impacts on biodiversity, forests and climate stability. However, the ecological processes that sustain productivity can be enhanced by integrating trees and shrubs into grazing systems, which helps address the conflict between livestock and the environment. Silvopastoral systems use water, soil and local biodiversity efficiently to produce high-quality food. At the same time, they conserve forests and other natural ecosystems, facilitate the ecological restoration of degraded land, enhance rural people's quality of life, promote animal welfare and generate ecosystem services.



Water buffalo in a silvopastoral system at El Hatico Nature Reserve, Colombia. © Carlos Pineda

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This five-week online course explored the principles and practices of silvopastoral systems and their contributions to forest & landscape restoration. With a holistic view of livestock production that applies the principles of agroecology and integrates trees and shrubs, this course was an invitation to open the mind to grazing systems that simultaneously address the needs of society and nature.

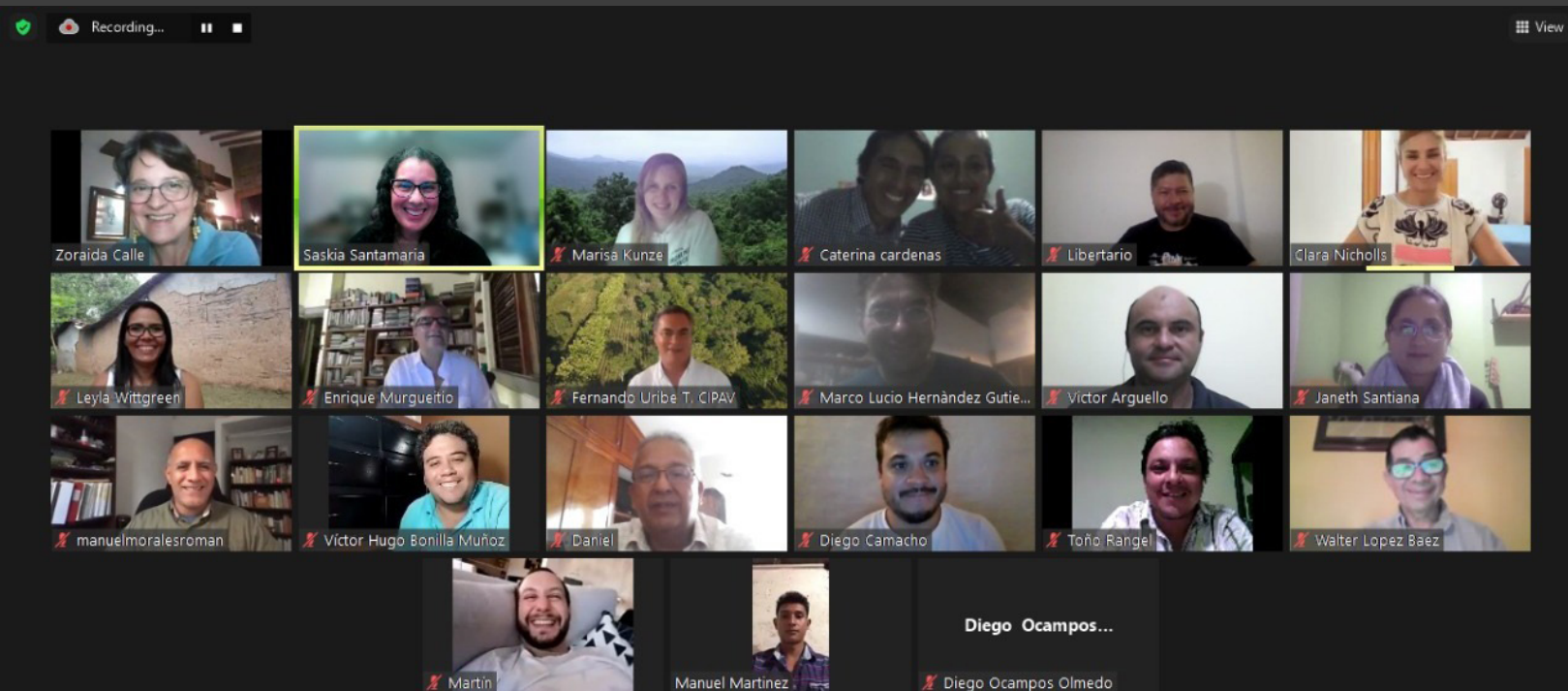
A series of lectures and case studies explored the technical, productive, environmental and cultural aspects of the transition from conventional to tree-based livestock farming systems. Through the interaction with Latin American experts, participants understood the role of silvopastoral systems in climate change adaptation and mitigation and opened their imagination to animal production in harmony with nature.

Objectives:

- Present the basic principles of silvopastoral systems and their variations in different Latin American countries
- Explore the interrelations between agroecological livestock production and forest & landscape restoration in Latin America
- Illustrate some integrated applications of silvopastoral systems and ecological restoration with case studies at the scale of rural properties, communities and landscapes
- Offer methodological tools to plan the productive transformation and restoration of livestock farms and landscapes to enhance their conservation value and sustainability

Course Structure: This online course combined a series of pre-recorded lectures, case studies, videos, discussion forums and live sessions with expert lecturers. One new recorded presentation explored animal welfare in silvopastoral systems.

*A group discussion between participants, ELTI and CIPAV instructors and guest expert Dr. Clara Nicholls (University of California-Berkeley)
© Saskia Santamaria*





Course participant Víctor Argüello works to implement silvopastoral practices in the Beni floodplains of Bolivia, a mosaic of natural grasslands, seasonal wetlands and subtropical forests. © Víctor Argüello

The first module introduced agroecology and sustainable livestock production. The following three modules focused on the technical aspects and planning of silvopastoral systems. The final module explored the cultural change that must take place to mainstream tree-based livestock production in Latin America.

Participants who chose to apply the concepts learned in the course to a real situation developed personal projects and received comments from the instructors.

The thematic modules were:

Module 1. Introduction to sustainable livestock production

Module 2. Technical, productive & economic aspects of silvopastoral systems (1)

Module 3. Technical, productive & economic aspects of silvopastoral systems (2)

Module 4. Planning of tree-based livestock production

Module 5. Cultural change toward sustainable ranching



Tree nursery for the implementation of silvopastoral systems. Course participant Faran Dometz and his colleagues from Sustainable Vets International are working to rehabilitate degraded land in the island of Ometepe, Nicaragua. © Faran Dometz

Participants who completed the course requirements received a certificate of participation.



"This course has helped me to see my working landscape with new eyes", wrote Caterina Cárdenas, Peruvian biologist, "Cacao & Trees" agroforestry project. © Caterina Cárdenas

Participants: The course was offered in Spanish to 22 participants from 13 countries. Participants represented a range of disciplines including agronomy, animal science, environmental science, veterinary medicine, natural resource management and biology. Most participants were extension workers, scientists, cattle ranchers or conservation specialists.

Instructors and Coordinators: Zoraida Calle (Colombia Coordinator, ELTI Neotropics Training Program) and Enrique Murgueitio (Executive Director, CIPAV), were the lead instructors for the course. Saskia Santamaría (Associate, ELTI Neotropics Training Program) facilitated the course delivery, with assistance from Gillian Bloomfield (Coordinator, ELTI Online Training Program).

Dr. María Zimmerman (INTA, Argentina), Dr. Julián Chará (CIPAV), Carlos Hernando Molina (CIPAV), Fernando Uribe (CIPAV), Enrique Murgueitio (CIPAV), Julián Andrés Giraldo (CIPAV), Adolfo Cardozo (Nueva Cendigranja Project), Jorge Esquivel (CREA Tierra Colorada), Dr. Alicia Calle (ELTI) and Luz Mercedes Botero (Colombian Association of Dual Purpose Cattle Breeders) presented pre-recorded lectures or case studies and were invited as guest experts to the live sessions.

Other pre-recorded lectures and case studies were presented by Zoraida Calle, Jacob Slusser (ELTI) & Odielca Solís (APASPE ranchers association), Saskia Santamaría, Dr. Pablo Peri (INTA Argentina), Dr. Julián Esteban Rivera (CIPAV), Manuel Gómez (Colombian Ranchers' Federation - FEDEGAN) and Héctor Fabio Messa (CIPAV). Three ELTI alumni were invited to present case studies of their own silvopastoral systems: Claudia Durana (El Silencio farm, Colombia), Vinícius Soarez (Faz O Bem Orgânicos, Brazil) and Nicolás Valenzuela (Agrícola Los Avellanos, Chile).

Outcomes and Follow-up: This online short course promoted a dynamic exchange across backgrounds, disciplines and geographies, with lively discussions in forums and break-out groups during live sessions. Five participants (23%) presented original projects to enhance agricultural landscapes and rural properties from the lowlands of Mexico and Guatemala to the moist forest of northern Argentina and the dry coast of Peru.

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.