WORKSHOP REPORT

Lessons Learned from the Colombian Sustainable Cattle Ranching Project

El Hatico Nature Reserve, Valle del Cauca, Colombia
January 22-24, 2019

A field course organized by:
The Environmental Leadership and Training Initiative (ELTI),
Center for Research on Sustainable Agricultural Production Systems (CIPAV),
Colombian Sustainable Cattle Ranching Project (Proyecto Ganadería Colombiana Sostenible)

Participants of the workshop "Lessons Learned from the Colombian Sustainable Cattle Ranching Project""

Background: The *Colombian Sustainable Cattle Ranching Project (CSCRP)* is the most ambitious initiative of its kind that has taken place in Colombia or other Latin American countries. Between 2012 and 2019, project activities covered 60,000 hectares of cattle grazing lands located in 89 municipalities and 5 regions of the country, and benefited more than 4500 farmers with actions related to the adoption of silvopastoral systems

ELTI is an initiative of:
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Field activity at El Hatico Nature Reserve.

and ecological restoration. In 2011, ELTI provided two field courses to part of the project's technical team: *Restoration of connectivity corridors in cattle ranching landscapes* (May 21-26) and *Strategies for the sustainability of connectivity corridors* (October 8 - 14).

This workshop brought together a group of ELTI alumni who work with CIPAV as technical assistants, researchers and professionals in the CSCRP and other projects that integrate sustainable ranching and ecological restoration. In this collective exercise, participants and trainers analyzed the lessons learned in delivering technical assistance, incentives and training to cattle farmers in different agroecological, cultural and socioeconomic contexts. The results of this workshop will be applied to design new projects aimed at upscaling silvopastoral systems and promoting landscape-scale sustainable cattle ranching in Latin America.

Objectives

- Discuss the lessons from the *Colombian Sustainable Cattle Ranching Project* in aspects such as the implementation of intensive silvopastoral systems, technical assistance to farmers, monitoring, incentive design and training.
- Collectively analyze the Project's design and results from the perspective of technical assistants, researchers and other team professionals.
- To start documenting the Project's lessons as a contribution for designing new initiatives aimed at improving silvopastoral systems and promoting sustainable cattle ranching at the landscape scale in Latin America.

Karen Castaño enjoys a creative writing exercise.

Workshop format

Day 1

Before starting the workshop activities, all course participants were invited to attend a lecture on snake-bite prevention, presented by Carlos Andrés Galvis. In this talk, they learned how to identify the most dangerous snake species, how to prevent snake-related accidents and what to do in case of a snake bite.

The workshop began with a creative writing exercise, coordinated by writer Miguel Caro. After sharing his personal story of becoming a self-trained writer, Miguel asked participants to share anecdotes related to the project. Working in pairs, participants wrote down each other's (or their own) stories and then read them out loud to the whole group. All participants were surprised by the depth and richness of these stories that never show up in technical reports but are an important part of the learning experience.

Day 2

The day began with two talks in which Julián Chará and Fernando Uribe (CIPAV's Research Coordinator and Sustainable Cattle Ranching Coordinator, respectively) described the process of designing the project and the adaptive changes that were made during its seven years. Enrique Murgueitio (CIPAV's Executive Director) commented both talks and further explained the previous sustainable ranching initiatives and inter-institutional agreements that set the stage for the CSCRP. After that, ELTI's Neotropics Training Program Colombia Coordinator, Zoraida Calle, described the global relevance of initiatives such as the CSCRP that scale-up silvopastoral systems for climate change adaptation and mitigation. Zoraida also explained the workshop's activities and methodology.

The first group exercise focused on different types of lessons. Each group discussed a set of questions aimed at analyzing the following aspects of the project:

Group 1. Implementation of intensive silvopastoral systems

This group reflected on the factors that determine the success in establishing and managing an intensive silvopastoral system. They discussed the key aspects that must be considered when working with small, medium and large-scale producers, including the types of silvopastoral arrangements that are best suited for each scale. They also discussed the cultural aspects that guarantee successful technology transfer, adoption and implementation of silvopastoral systems, including local cultures, gender issues, schooling and age of cattle ranchers.

Group discussion on soil, water, carbon and biodiversity monitoring.

Group discussion on pilot or demonstration farms.

Group 2. Soil, water, carbon and biodiversity monitoring

This group discussed the efficiency and ease of interpretation of the variables used for evaluating soil and water ecosystem health in farms and agricultural landscapes. They also analyzed the advantages and disadvantages of the plant and animal groups chosen for biodiversity monitoring, and tried to answer these questions: How can we enhance the participation of land owners and local communities in soil, carbon, water and biodiversity monitoring? How should we involve the youth?

Group 3. Pilot or demonstration farms

This group reflected on the criteria that should be applied when selecting cattle ranchers for demonstration farms, and the factors that influence the success (or failure) of cattle ranchers in the process of transforming their farms.

Other important questions were: What have we learned about incorporating trees in cattle ranching farms? Which attributes define a suitable tree for silvopastoral systems? How can we improve the attitude of cattle ranchers toward native trees? How do factors such as incentives, market opportunities, public policy, availability of trained workers and access to seeds and machinery affect the implementation and continuity of pilot farms?

Group 4. Interinstitutional agreements and project design

This group discussed the incentives and technical instruments applied by CSCRP and other projects. They focused on identifying a correct balance between direct investment in participating farms, contributions from farmers and access to credit in order to guarantee significant and positive land use change in farming systems, and their continuity. They also analyzed the factors involved in the successful up-scaling of silvopastoral systems.

The field exercise took place after the discussion session. Given that El Hatico adopted silvopastures more than four decades ago, they need to design protocols to regulate shade. However, planning in a complex

system that combines more than 70 tree species with shrubs and different grasses involves many decisions and dilemmas that affect fodder and milk production. Carlos Hernando, Enrique José and Juan José Molina (8th and 9th generation owners of El Hatico) planned a strategic walk through different silvopastures that illustrate these difficult management decisions. This exercise provided an excellent opportunity for analyzing the ecological and financial implications of managing species interactions in a complex, dynamic and biodiverse farming system.

Course participants discuss some of the challenges involved in managing complex silvopastoral systems at El Hatico Nature Reserve.

Day 3

The day began with an individual writing session in which workshop participants tried to write their own technical and human lessons. After that, the second discussion session focused on designing future silvopastoral projects in aspects such as technical assistance, food sovereignty, ecological restoration, climate change adaptation, selection of participants, cultural aspects and tools for different contexts. The workshop ended with a plenary session in which all participants shared their texts and personal conclusions about the project.

Carlos Hernando Molina (right) helps Ricardo Rubio (left) to write his personal lessons. Since his first ELTI course, Ricardo has planted 1,200,000 trees in cattle ranching farms.

Participants

The 26 workshop participants included researchers, technical assistants and coordinators of the CSCRP and other projects that integrate sustainable cattle ranching and ecological restoration.

Instructors

- Miguel Caro, writer
- Zoraida Calle, ELTI and CIPAV
- Julián Chará, Fernando Uribe and Enrique Murgueitio, CIPAV
- Carlos Hernando, Enrique José and Juan José Molina, El Hatico Nature Reserve

Outcomes and Follow-up:

This workshop helped to reflect collectively on the lessons learned in the CSCRP. Group discussions were useful to analyze different components of silvopastoral projects. These were the main conclusions:

Photo: Zoraida Calle

Silvopastoral system at El Hatico Nature Reserve.

Intensive silvopastoral systems and pilot farms

- Two discussion groups identified 26 factors involved in the successful establishment of intensive silvopastoral systems; these include biophysical factors (such as adequate selection of species), cultural factors (a correct understanding of the cattle rancher's needs and values), the project's capacity building component (participation of farmers, their families and farm workers in practical method demonstrations), technical aspects (strong fences) and financial tools (partial support for implementation costs).

- When trying to identify the adequate types of silvopastoral systems for small, medium or large-scale farms, technical assistants should consider the owner's economic capacity and the potential of each alternative to enhance the farm's productivity.

- Pilot or demonstration farms must be chosen to adequately represent the local topography, soil conditions and farming systems; they should have irrigation (when located in seasonally dry areas) and be dedicated mostly to cattle ranching. The owners should live in the farm or visit it frequently. Farm owners and administrators must be convinced of the importance of adopting better ranching practices.

Monitoring biodiversity, soil, carbon and water resources

- The number of variables that can be monitored in silvopastoral systems is daunting, while resources and money are limited. Therefore, it is necessary to choose variables that can adequately measure changes in environmental services, for example soil parameters related to carbon accumulation and water retention, together with plant and animal groups that play key functional roles in ranching systems.

- Participatory monitoring should involve all family members in rural communities, and should follow a logical sequence, beginning with soil and water, continuing with dung beetles and woody plants, and ending with birds.

Lessons for the design of new silvopastoral projects


Photo: Zoraida Calle

El Hatico's silvopastures stimulate interesting discussions.

- Projects should have a minimum duration of three years; at least six months should be invested in a diagnostic phase to refine the project's design.
- A landscape approach should be applied when choosing project beneficiaries. Ideally, participating farms should be aggregated in corridors or core areas to optimize logistics.
- A farmer's bond to the farm is a stronger predictor of success in the adoption of sustainable land use practices than the degree to which he or she depends economically on the land.
- Farms should be integrated into a value chain, and the industry that transforms farm products should be linked to the project.
- Silvopastoral projects should offer a toolbox with a wide array of technical options, instead of imposing a "one size fits all" approach. Technical assistance and investment in farms should always go together. Training of human resources is a key component of a project's success.
- Participatory farm planning should involve whole rural properties (not only the areas dedicated to cattle ranching) and should seek the complementarity between sustainable cattle ranching, food production, restoration, and conservation.
- There must be absolute clarity about the contributions made by the project and by farmers. Whenever farmers contribute with labor (either their own of their workers'), this should be quantified rigorously.
- The selected tree species should offer tangible benefits and their functions should be clear for the farmers. Tree management practices should be anticipated from the implementation phase of silvopastoral systems. This includes pruning and registration of the forestry component with the environmental authorities.
- The complexity of farming systems and farm-scale technical adaptations should evolve gradually.
- The availability and quality of seeds are key determinants of a project's success regardless of whether seedling production is coordinated by the project or outsourced.
- The planting process should be monitored carefully and should be done by trained workers.
- Pilot farms should become training centers. This model works well in projects co-financed by municipal governments. Specific activities should be designed to involve rural women and youth.
- Scaling-up of silvopastoral systems requires the participation of research institutions (such as CIPAV) in the processes where political decisions are made.

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