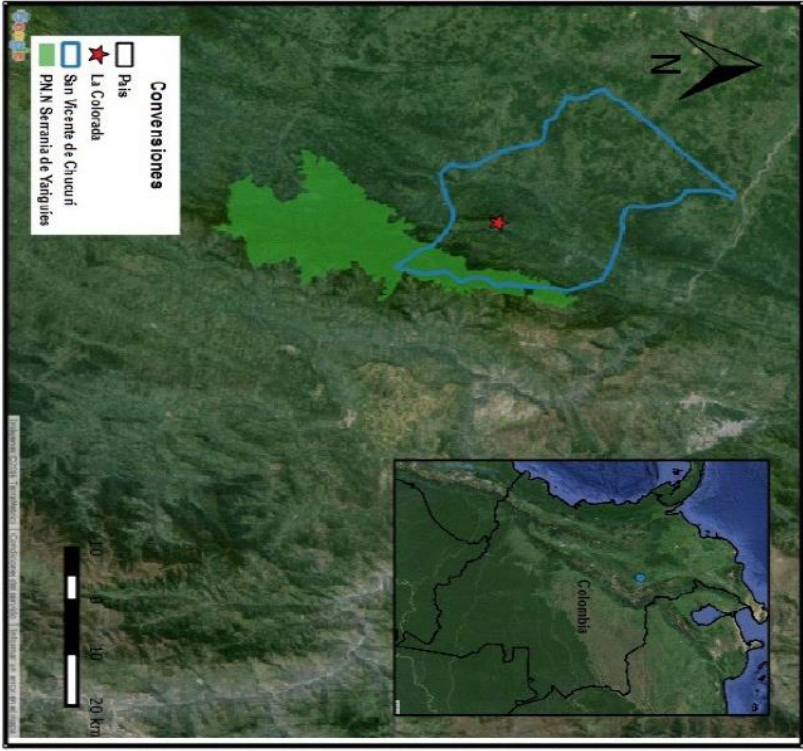


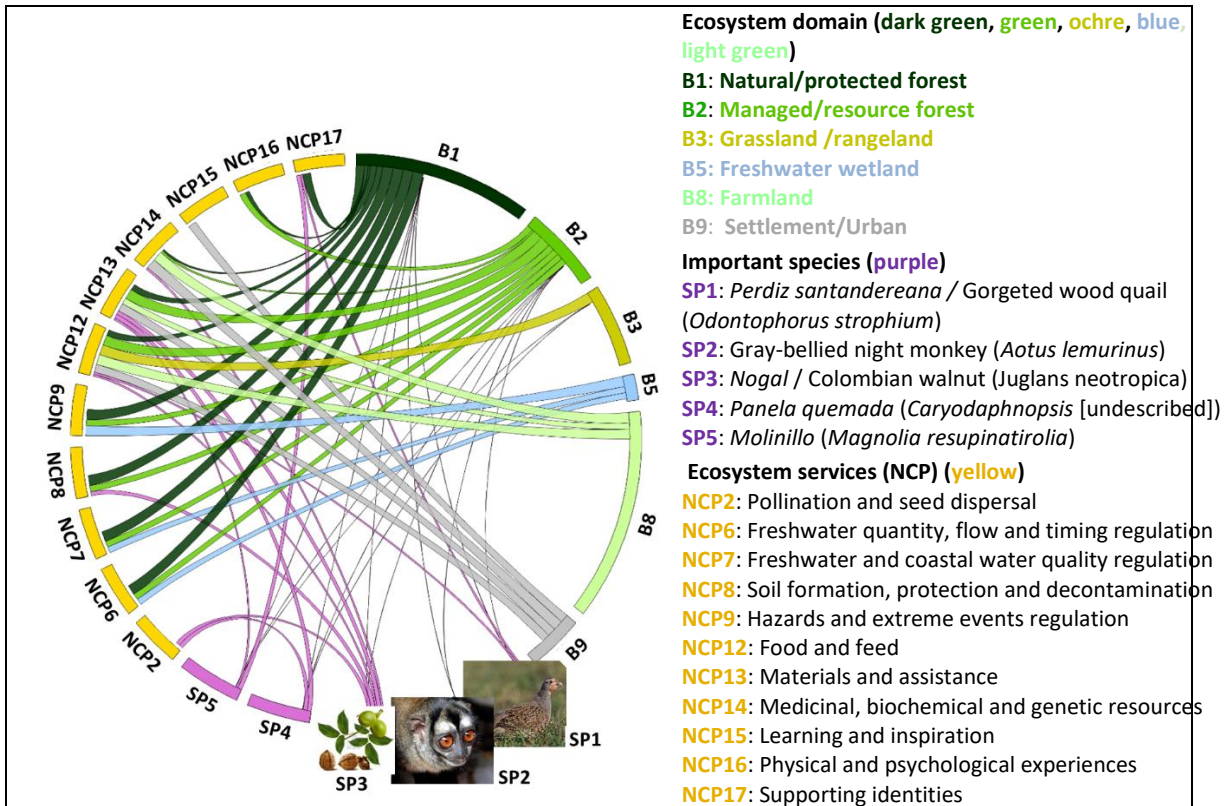
**Project Final Report**

|                                  |  |
|----------------------------------|--|
| <b>Project Name</b>              | Reconciling biodiversity conservation and agricultural production in agroforestry cultivation systems in the Colombian Andes: a model for Colombia's post conflict era |
| <b>Location</b>                  | San Vicente de Chucurí, Colombia<br>  |
| <b>Implementing Organization</b> | Universidad Industrial de Santander (UIS)  |
| <b>Partners</b>                  | Corporación Colombiana de Investigación Agropecuaria (AGROSAVIA formerly CORPOICA)   |
| <b>Size of Project Site</b>      | 150 ha   |
| <b>Number of Beneficiaries</b>   | 80 persons   |
| <b>Key Species</b>               | Cedro Grande ( <i>Juglans neotropica</i> )<br>Variegated Spider Monkey ( <i>Ateles hybridus</i> )<br>Blue-billed Curassow ( <i>Crax alberti</i> )                      |
| <b>GEF Funding Amount</b>        | US\$89,700   |
| <b>Co-financing</b>              | US\$242,075  |
| <b>Period of Performance</b>     | June 2016 - March 2019   |

### **Summary (Including relevance to values, Indigenous Language and knowledge (ILK), and governance)**

In the Colombian Andes diversified agroforestry systems with cacao and coffee exist within a matrix of cattle pastures and well preserved forest fragments which harbor a biodiversity of fauna and flora that provide essential ecosystem services, but are threatened by agricultural intensification, post-conflict rural development and global market pressures. The project was carried out in the buffer zone of the Yariguíes National Park, a nationally important production landscape that with a high level of biodiversity and endemism. The region was relatively recently colonized and remained largely isolated due to the internal armed conflict. Against this background, the project contributed to the conservation of these biologically diverse production landscapes by identifying existing management strategies, reconciling biodiversity conservation and ecosystem service provisioning with agricultural production. To do so, an assessment of the biodiversity and ecosystem services was done across three different management strategies: (i) intensified cacao and/or coffee production without shade trees, (ii) designed agroforestry systems with planted shade trees, and (iii) close to natural polycultures. Plant, invertebrate and vertebrate Biodiversity indicators and ecosystem services (water provisioning, soil protection and pest control) were assessed. The project converted the autochthonous tacit knowledge about managing these diversified agro-ecosystems into explicit expert knowledge using a participatory approach. Thus, empowering local communities to conserve their knowledge for future challenges and inspire the emerging population of Colombian post-conflict farmers.

The GEF-Satoyama Project aimed to address three barriers to SEPLS globally, namely, insufficient recognition of SEPLS values, disappearing traditional knowledge, and weak governance. A strong link between values, knowledge and governance can potentially enhance biodiversity and production in SEPLS. The interplay between values, ILKP and governance contributing to the sustainability and resilience of SEPLS was considered as well as the linkages between the drivers and corresponding policies are shown in the following figures and tables below.



**Connection between ecosystem domains, species and ecosystem services (NCP)**

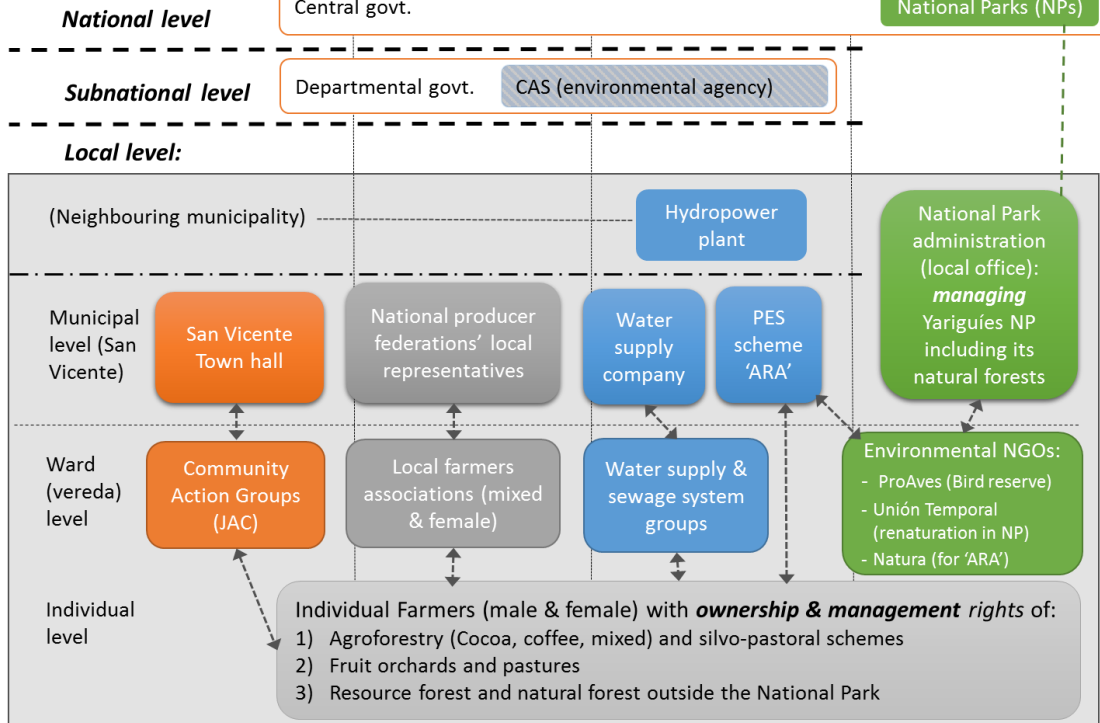
**ILKP for the use and management of different ecosystem domains and species**

| Ecosystem                        | ILK           |  | Trend | ILK holders |         |         |               |
|----------------------------------|---------------|--|-------|-------------|---------|---------|---------------|
|                                  | Species       | Description  |       | Hunters     | Loggers | Farmers | City dwellers |
| 2.Managed/resource forest        | 1.Knowledge   | mainly of timber species and animals used by hunters   | ↓     | ○           |         | ○       |               |
|                                  |               | Medicinal properties of trees  | ↓     |             |         | ○       |               |
|                                  |               | plant taxonomy and demography of useful trees, and its pollination and dispersal syndromes   | ↓     | ○           | ○       | ○       |               |
| 3.Grassland /rangeland           | 1.Knowledge   | how to grow livestock and food for their animals   | →     |             |         | ○       |               |
|                                  |               | how to heal animals  | →     |             |         | ○       |               |
| 5.Freshwater /inland waterbodies | 1.Knowledge   | watershed dynamics, differential water-flow rates per stream                                 | →     |             |         | ○       |               |
|                                  |               | physical-chemical characteristics of water (explanations about the color and minerals on it) | ↘     |             |         | ○       |               |
|                                  | 4.World view  | Myths and legends related to the unusual growth of water levels and avalanches               | →     |             |         | ○       | ○             |
| 8.Farmland                       | 1.Knowledge   | crops soil and temperature requirements  | →     |             |         | ○       |               |
|                                  | 1.Knowledge   | Local empirical knowledge of pest management and Local                                       | →     |             |         | ○       |               |
|                                  | 2.Mgt. system |  | →     |             |         | ○       |               |

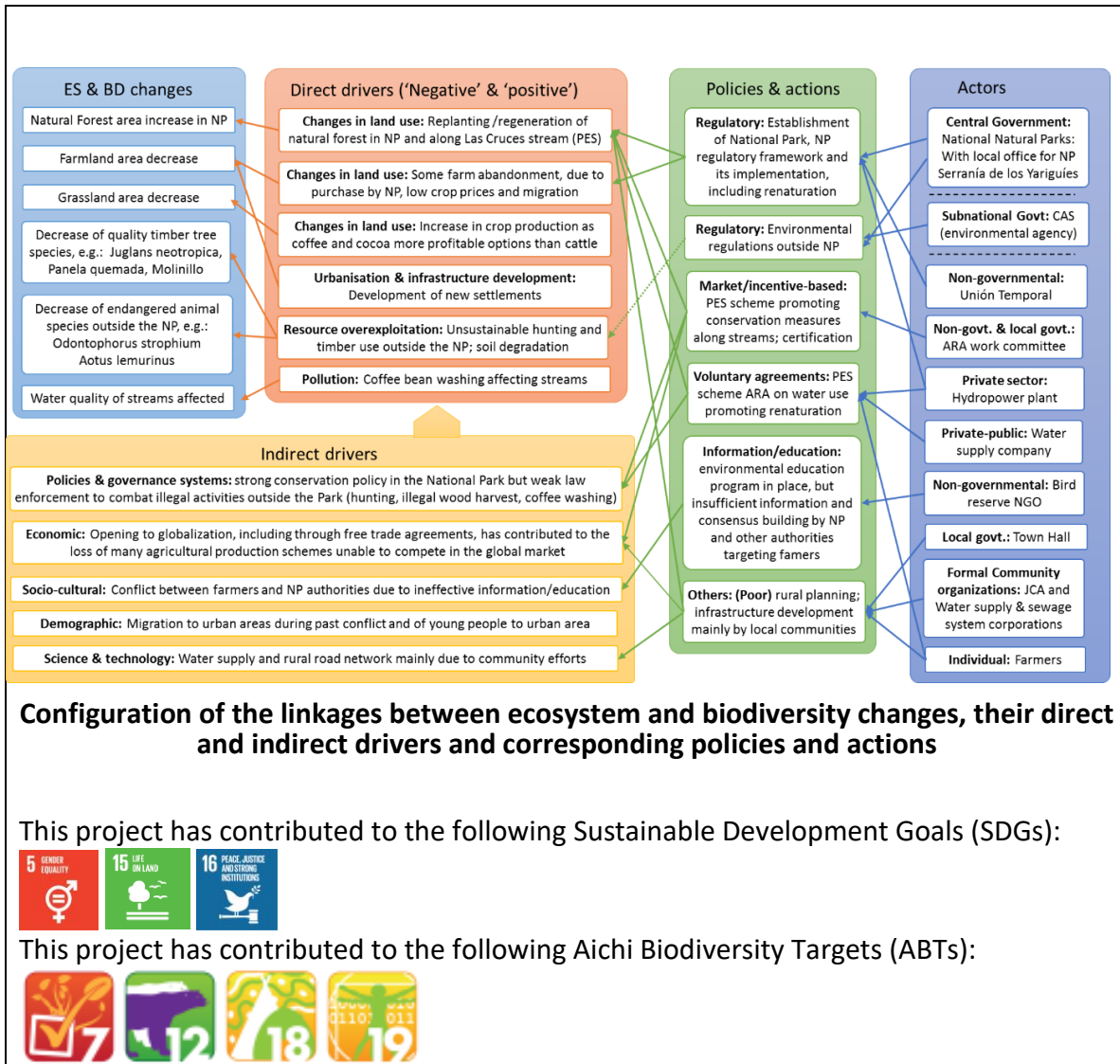
|                      |                                     |  |   |  |  |   |  |
|----------------------|-------------------------------------|--|---|--|--|---|--|
|                      | 3.Soc. Institutions<br>4.World view | environmental perception, summarized in Peasant Culture: Food, building techniques (including local timber), local beverages, social traditions, religious traditions. |   |  |  |   |  |
| Molinillo            | 1.Knowledge                         | identification and taxonomy of the specie, seed nursing, seedling requirements, trees demography and fruit processing as kitchen tool                                  | ↘ |  |  | ○ |  |
| Nogal                | 1.Knowledge                         | identification and taxonomy of the specie, seed nursing, seedling requirements, trees demography and wood processing   | ↘ |  |  | ○ |  |
| Panela quemada       | 1.Knowledge                         | identification and taxonomy of the specie, seed nursing, seedling requirements, trees demography, wood processing and house and fence building using this wood         | ↘ |  |  | ○ |  |
| Perdiz santandereana | 1.Knowledge                         | habits and daily activity, preferred food sources, reproductive biology and demography. (because was a highly hunted specie in the past)                               | ↘ |  |  | ○ |  |
|                      |                                     | Specie recognition through the bird sound as a scientific level  | → |  |  | ○ |  |

**Responsibilities:** Administration / participation    Agriculture/Landscape management    Water conservation, supply & consumption    Biodiversity conservation

**Actors:**



**Ecosystem governance structure in the landscape**



### Project Achievements

| Name                 | Description  |
|----------------------|--|
| FiNCO initiative     | The creation of the FiNCO initiative allows for the promotion of farms as a source of knowledge.   |
| La Germania Project  | Establishment of the Agri-eco-touristic project in La Germania maps farms through a common route which gives tourist various options to choose from. |
| Inventories of Fauna | Production of inventories of ants, birds and mammals in San Vicente de Chucurí as a further contribution to science.                                 |

## Lessons Learned

| Description  | Recommendation  |
|--|---|
| Bad relationships between farmers and institutions, and distrust of external actors made difficult data collection | Stakeholder engagements needs to be done so that the community members become the owners and drivers of the project.                  |
| Social fracture hinders community organization and collective action   | Networking initiatives such as exchanges between farmers, workshops and the La Germania project are ways to overcome this difficulty. |

## Outputs

| Type        | Details   |
|-------------|---|
| Video       | FiNCO Los Laureles<br><a href="https://www.youtube.com/watch?v=KpRE8FOjhOA">https://www.youtube.com/watch?v=KpRE8FOjhOA</a>   |
| Video       | FiNCO Vista Hermosa<br><a href="https://www.youtube.com/watch?v=FqOC5x1VTZY">https://www.youtube.com/watch?v=FqOC5x1VTZY</a>  |
| Video       | FiNCO Varsovia<br><a href="https://www.youtube.com/watch?v=iGOMXYooMWs">https://www.youtube.com/watch?v=iGOMXYooMWs</a>   |
| Thesis      | Capacidad de resiliencia socio-ecológica del paisaje de la microcuenca Las Cruces de San Vicente de Chucurí<br><a href="http://tangara.uis.edu.co/biblioweb/pags/cat/conbas.jsp">http://tangara.uis.edu.co/biblioweb/pags/cat/conbas.jsp</a>  |
| Publication | Monitoring ecological change during rapid socio-economic and political transitions: Colombian ecosystems in the post-conflict era<br><a href="http://www.sciencedirect.com/science/article/pii/S1462901117303805">http://www.sciencedirect.com/science/article/pii/S1462901117303805</a>  |
| Thesis      | Sistemas de Producción Rural en San Vicente de Chucuri: Fincas en La Microcuenca Las Cruces<br><a href="http://tangara.uis.edu.co/biblioweb/pags/cat/conbas.jsp">http://tangara.uis.edu.co/biblioweb/pags/cat/conbas.jsp</a>  |
| Publication | Land-use heterogeneity by small-scale agriculture promotes amphibian diversity in montane agroforestry systems of northeast Colombia<br><a href="https://www.sciencedirect.com/science/article/pii/S0167880918302019">https://www.sciencedirect.com/science/article/pii/S0167880918302019</a>   |
| Thesis      | La Producción Agrícola Familiar y Las Practicas de Manejo Ambiental Que Permiten la Conservación de Los Paisajes Agroforestales, Un Aporte Etnográfico Desde el Trabajo Social<br><a href="http://tangara.uis.edu.co/biblioweb/pags/cat/conbas.jsp">http://tangara.uis.edu.co/biblioweb/pags/cat/conbas.jsp</a>                             |
| Publication | Guía ilustrada mamíferos y aves registradas con fototrampeo, Microcuenca Las Cruces, San Vicente de Chucurí, Santander<br><a href="http://gef-satoyama.net/wp/wp-content/uploads/2019/05/72.-Catalogue-of-Vertebrates-compressed.pdf">http://gef-satoyama.net/wp/wp-content/uploads/2019/05/72.-Catalogue-of-Vertebrates-compressed.pdf</a> |

|             |   |
|-------------|---|
| Publication | Catálogo ilustrado Hormigas en monocultivos y sistemas agroforestales con cacao Microcuenca Las Cruces, San Vicente de Chucurí, Santander <a href="http://gef-satoyama.net/wp/wp-content/uploads/2019/05/71.-Catalogo-de-Hormigas-compressed.pdf">http://gef-satoyama.net/wp/wp-content/uploads/2019/05/71.-Catalogo-de-Hormigas-compressed.pdf</a> |
| Publication | Aves de la Microcuenca de Las Cruces <a href="http://gef-satoyama.net/wp/wp-content/uploads/2019/05/70.-Aves-compressed.pdf">http://gef-satoyama.net/wp/wp-content/uploads/2019/05/70.-Aves-compressed.pdf</a>  |
| Website     | Fincas de Intercambio de Conocimiento <a href="https://finco.pasoeco.co/">https://finco.pasoeco.co/</a>   |

**For more information please contact**

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