

SUCCESSIONAL AGROFORESTRY SYSTEMS BY ECOTOP

CATEGORY:

POLICY | RESEARCH | **FIELD** | CLIMATE

LOCATION/SCALE:

Bolivia (National)

IMPLEMENTING ORGANISATION:

Fundación Ecotop

PERIOD:

1995 - now

IN A NUTSHELL

The Ecotop Foundation joins with farmers to implement successional agroforestry systems (SAFS), integrating different trees and crops based on natural succession dynamics. Crops and trees are grouped as pioneers, secondary or primary species, depending on their life cycle, to form a composition in which all stories (spatial) and all phases (temporal) are occupied, maximizing density and diversity. This results in soil regeneration, organic matter accumulation, improved microclimate and pest management.

Based on an individual diagnostic of a specific production system, Ecotop designs alternatives and offers training in management practices of dynamic agroforestry systems for cocoa and other kind of crops, both for small and large-scale farmers.

The high diversity of the SAFS system provides environmental services like soil regeneration, organic matter accumulation, improved microclimate, and pest control. It can result in high yields from a range of crops without external inputs.

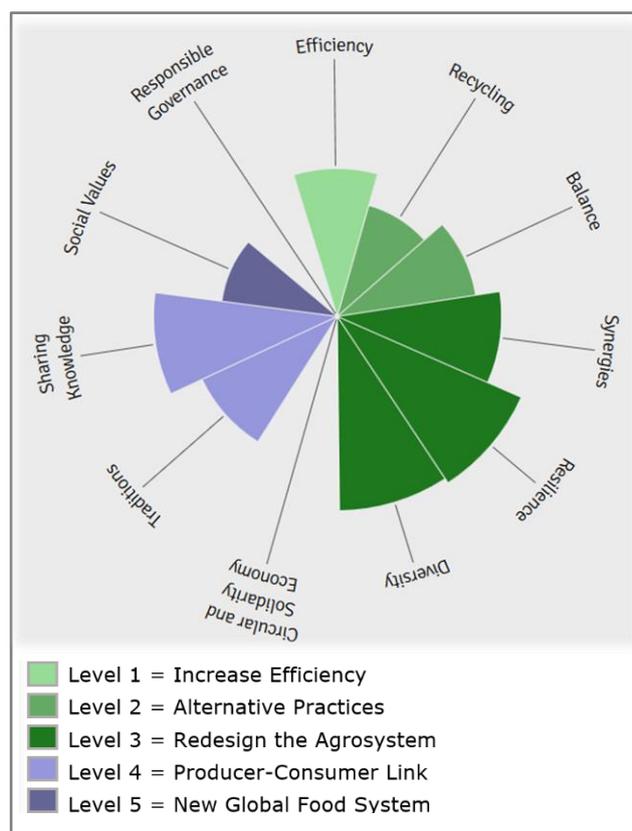


Figure: Assessment of Ecotop based on FAO Elements of Agroecology and Gliessman's five levels of food system change

CONTEXT

Bolivia has one of the highest deforestation rates of the world and some of the biodiversity-richest ecosystems. At the borders of the Amazon, the extension of the agricultural frontier must be stopped while preserving forests through integrative use. There are two main actors who use the forest: firstly, migrants from the Andes who have been burning forests and implementing monocultures, and secondly, local indigenous people who practise subsistence agriculture complemented with hunting and gathering. The main challenges consist in reversing unsustainable agricultural practices and soil deletion, and providing decent livelihoods for all communities.

OBJECTIVE

The objective is to restore depleted soils and to improve the productivity of cocoa, coffee or other plantations in crisis. This goal can be achieved without any external inputs, only by increasing the turnover of organic matter, by diversifying the production systems and adapting management practices to the specific requirements of the crop. These interventions also contribute to limit significantly with the damage caused by pests and diseases. At the same time, food security for farmers' families will improve.

KEY INTERVENTIONS

FARM LEVEL:

- Successional agroforestry systems (SAFS) with crops and trees in combination regarding their life cycle maximizing density and diversity
- Increasing water use efficiency and higher resistance to droughts through root systems reaching to different soil depths
- Silvopastoral systems to increase soil protection and synergies between trees and grazing animals

REGIONAL/NATIONAL LEVEL:

- Knowledge dissemination through local "lighthouse" farmers passing on their experience and know-how in field courses and farmer-to-farmer exchanges
- Granting innovative farmers a university title of agricultural technicians to generate prestige in the communities and helps to interact with policy makers
- Increased livelihood resilience due to constant income throughout the year and no additional costs for external inputs

LESSONS LEARNED/CHALLENGES

The SAFS systems promoted by Ecotop is a knowledge-intensive approach. It requires public policies supporting agricultural research and participative extension services. States and donors have a key role to play here. Private companies will not invest time and money in practices that cannot be rewarded by patents and which do not open markets for chemical products or improved seeds.

RELEVANT LINKS & REFERENCES

- Farming for Biodiversity 2017: "Fundación Ecotop". Solution Search Finalist Spotlight <https://www.farmingforbiodiversity.org/wp-content/uploads/2017/08/2017.10-FFB-Finalist-Flyer-Fundacion-Ecotop.pdf>
- SolutionSearch 2017: "Fundación Ecotop". <https://solutionsearch.org/entityform/1157>

