



Tropentag, September 14-16, 2010, Zurich

“World Food System —
A Contribution from Europe”

Developing Strategies for Managing Andean Agroecosystems in Colombia

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Abstract

The Otun basin river is located in the central range mountain of the Colombian Andeans. This area includes an interesting complex of relationships and dynamics between natural ecosystems and human population. Highlands between 2000 and 4000 masl are important for providing ecosystems services and lowlands between 2000 and 900 masl represent the territory for urban settlements and rural activities. Approximately 500.000 people settled in the coffee region of Colombia (city of Pereira) depend on goods and services provided by natural ecosystems and agroecosystems. Most of the highlands surface (above 4000 absl) belong to protected areas conformed by paramo ecosystems which fulfil significant ecological functions of regulating water resources. Buffering areas of paramo ecosystems (2000–4000 absl) are covered by Andean tropical cloud forest with high although breakable biodiversity. Lowlands (2000–900 absl) conform a mixed landscape with agriculture, livestock and remnants of forest. Remnants of forest accomplish important ecological functions such biodiversity refuge and stepping stones for ecological restoration processes as well.

Currently conditions of this significant area in Colombia are threatened by degradation of natural resources and lately by climate variability. As a consequence ecological processes are being shaken and some changes have been elucidated.

Territorial security is now a priority which permits to face integrally ecosystems degradation. Currently, politics, institutional strengthening as well as strategies of adaptation through planning and incorporation of adequate practices within farm systems, are being implemented for contributing to territorial security and additionally to increase agroecosystems resilience. Information generated when monitoring biodiversity (functional groups), soil and water, has permitted to define agroecosystems vulnerability and elucidate measures of adaptation. In this sense, actions addressed from different sectors and stakeholders, taking in account particularities of each farm systems, are providing the bases to develop strategies for managing properly agroecosystems.

Keywords: Agroecosystems, ecosystems services, forest fragmentation