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Under a Changing Climate: Livelihood Strategies in Forest-Adjacent Communities. A Socio-Economic Analysis from Lowland Bolivia

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Abstract

Agriculture, forestry activities and cattle ranching interact with climatic extreme events like floodings and droughts in tropical lowland Bolivia. The study area comprises of indigenous communities with subsistence rainfed agriculture located in in the North Bolivian Amazon. The site raises concerns about the effects of changing weather conditions on livelihoods of rural forest-adjacent communities.

This ongoing Ph.D. research is part of the International Network on Climate Change (INCA) and is expected to increase understanding on the impact of changing weather conditions on livelihood activities and forest dependency. Furthermore, the study analyzes if farmers shift from climate affected income activities to a more intense forest use and the role of forest products in climate change adaptation and coping strategies.

The socio-ecological system is investigated in a holistic way, applying a case study approach on household level. The study used participative tools such as field laboratories and 50 household interviews have been conducted to gain mainly quantitative data using CIFOR Poverty Environmental Network investigation tools. A photo-elicitation method is planned for end 2014 and will show rural people's perspective. Preliminary findings show that changing environmental frame conditions (irregular seasons, more frequent extreme weather events) influence agricultural calendars, crop yields, timber harvest and tend to change land-use systems. In 2013, a large part of Amazonian Tacana families were unable to prepare shifting cultivation fields for subsistence income due to unpredictable and long-lasting rain periods. A tendency towards an increased harvest of forest products in extreme years as compensation for affected income activities is evident. Alternative income activities and thus climate change adaptation opportunities have been recognized as the bee-keeping of stingless bees (Meliponini).

Keywords: Bolivia, climate change, community forestry, socio-ecological system, sustainable livelihoods