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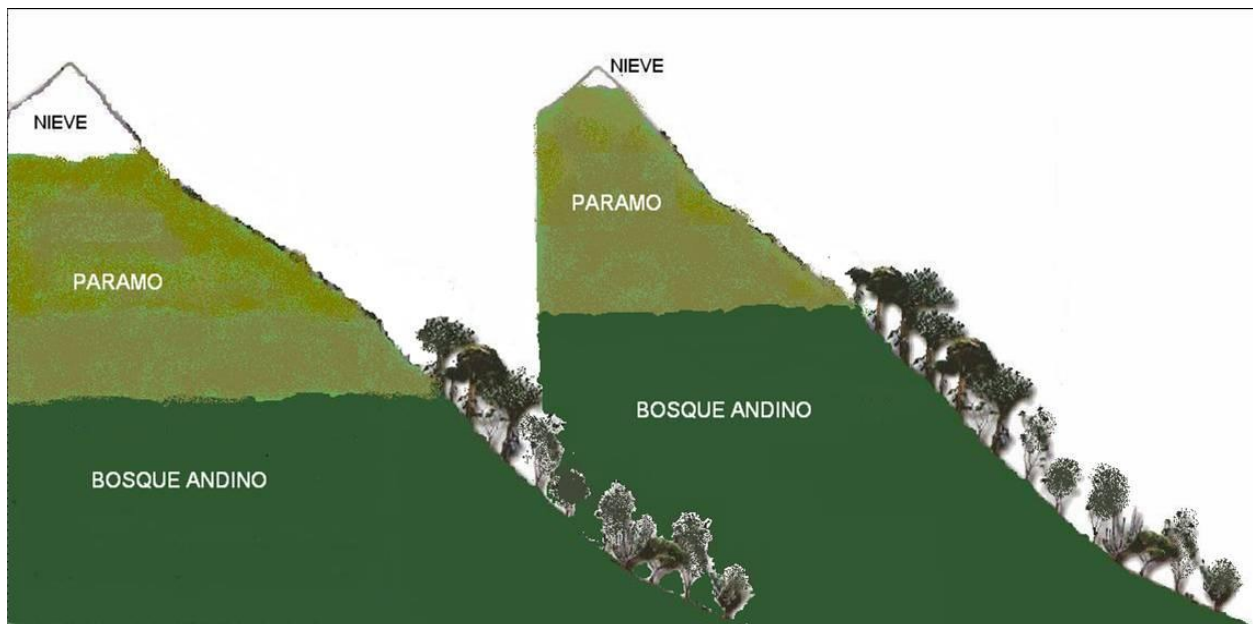
Drivers of Change in Water Availability in the Andes

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THE VERTICAL MOVE OF ECOSYSTEMS AND HYDROLOGICAL UNITS UNDER CLIMATE CHANGE REDUCES VERY SIGNIFICANTLY THE TOTAL SURFACE AREA OF CRITICAL AREAS SUCH AS PARAMOS AND GLACIERS

Key Message

Though the Andes is not an area with severe water scarcity in general, conditions are extremely variable, and ever more areas run into imbalance of supply and demand. This is caused by deterioration of regulated water sources under ecosystem degradation and climate change, and a sustained increase in demand driven by population and urbanization increase, and new water uses in agriculture for export and mining. Responses to tackle this imbalance need to be specific to the local setting and are now drawing from a wide variety of mechanisms for sharing benefits among stakeholders, as a tool in the implementation of Integrated Water Resources Management in the region.

Summary

Hydrology in the Andes is extremely variable. It is also very vulnerable to climate change and local degradation. Under climate change, the vertical movement of ecosystems under relatively certain warming scenarios, deserve more attention, compared to very uncertain scenarios of changes in rainfall. On the other hand, water demand is variable as well, with critical demands in growing high altitude cities, and desert lowlands where export crops are now irrigated.

The presence of powerful stakeholders, such as mining and hydropower companies, and agroindustry, puts more pressure on the available water resources, but is also an opportunity to increase efficiency of catchment management actions.

Payment for environmental services (PES) is seen as an important response of stakeholders in the Andes to the locally critical imbalance between supply and demand. However, people are trying out a wide variety of arrangements, for example in order to protect critical ecosystems, which the CPWF calls Benefit Sharing Mechanisms in its Andes Basin Development Challenge. Actually PES is criticized by some sectors of society and some countries even implement legal constraints.