

Imperial College London, Amazon Conservation Association (ACCA)

Phinaya, Peru

Nature and eco-based solutions for integrative drought resilience and adaptation in the deglaciating Andes

Rapidly vanishing glaciers and high vulnerabilities to increasing drought conditions in combination with growing water demand are a major concern for water security in the Peruvian Andes. The project aims at implementing co-developed nature and eco-based solutions to support local decision-making for drought resilience, risk management and adaptation in the Vilcanota-Urubamba basin, southern Peru.

Below: Overview of the intervention area: Upper Vilcanota-Urubamba basin, Southern Peru. A new headwater management plan is being developed within the Regional Conservation Area Ausangate (green overlay). Artwork: Fabian Drenkhan.



In the Peruvian Andes, year-round streamflow from glaciers supports downstream ecosystems and human livelihoods. However, rapid changes in glacio-hydrological and socio-economic conditions are a major concern for water security. A case in point is the Vilcanota-Urubamba river basin (VUB) in southern Peru, which holds the second-largest tropical glacier fragment worldwide. The VUB is characterised by glacier shrinkage, high human vulnerabilities, and growing water demand linked to increasing irrigation, population and hydropower capacity. The local government is implementing a new management plan to support headwater conservation in the upper VUB in view of severe hydrological risk potentials.

In line with these challenges and efforts to tackle them, the Imperial College London (ICL) and Amazon Conservation Association (ACCA) have designed a joint project framework to develop socially feasible nature and eco-based risk reduction measures in the upper VUB. The project aims at empowering local communities in close exchange with decision-makers by implementing a joint capacity and hydrological monitoring programme. This collaborative effort then supports the integration of scientific and local knowledge for the co-development of meaningful adaptation strategies that enhance drought resilience and foster effective long-term water management in accordance with specific needs of local communities, downstream water users and new national policies linked to payments for ecosystem services.





"We, who live in the peasant community of Phinaya who are close to what are the glaciers, we are witnesses that they are deglaciating more and more due to climate change, and it is very concerning because the water comes from the glaciers, and until where the main basin reaches human life is at risk."

Ismael Mendoza

President of the peasant community of Phinaya (upper Vilcanota-Urubamba basin)

Submitting organisation

Imperial College London

Imperial College London paramo.cc.ic.ac.uk



ACCA acca.org.pe

Top: Assessment for conservation planning of peat bog wetlands performed by local community members and the NGO ACCA in the upper Vilcanota-Urubamba basin.

Bottom: Installation of groundwater

observation tubes for monitoring peat bog wetlands in the upper Vilcanota-Urubamba

Photo: Marlene Mamani.

basin. Photo: Jan R. Baiker.