Global Mountain Action
Azione per le Montagne Globale
Aktion Globale Berge
Acción para las Montañas Globales
Action pour les Montagnes Globale

Subject: Lessons learned and good practices on adaptation planning processes addressing ecosystems and interrelated areas such as water resources

Dear Madame/Sir

This submission by GLOBAL MOUNTAIN ACTION, a member of The Mountain Partnership, is in response to the invitation of the Subsidiary Body for Scientific and Technological Advice (SBSTA) at its 44th session in the area of ecosystems, interrelated areas such as water resources and adaptation under the Nairobi work program.

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Please do not hesitate to ask if there are questions,

SIncerely,

Dr. Peter Trutmann
President

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See also: www.globalmountainaction.org.

1. Adaptation planning processes addressing ecosystems and interrelated areas such as water resources

- ***Description of relevant activities and collaborating partner institution/s (if any):***

Development of a baseline of macrofungal diversity for the Peruvian Andes and its use to measure ecosystem health and functionality.

Partners: Universidad Peruano Cayatano Heredia (UPCH), Universidad Nacional San Antonio Abad de Cusco (UNSAAC), Servicio Nacional Forestal y de Fauna Silvestre (SERFOR)

- **Key results**

Six years of study and analysis of the Peruvian Andes (excluding as yet most of the Eastern slopes) showed that:

- Macro fungal diversity is reduced when puna grassland is converted to simplified grass pasture systems.
- Retaining cloud forests or reforestation increase fungal diversity
- Native cloud forests systems have greater fungal diversity than plantations or grasslands.
- Highest macrofungal diversity was found in threatened northern cloud forests.

- **Description of lessons learned and good practices**

- Overuse and mismanagement of fragile native highland 'puna' grassland ecosystems through burning practices and uncontrolled overstocking as encouraged by current economics and lack of effective policies has created a downward spiral of fertility and diversity. This in turn affects ecosystem functionality and in the end human wellbeing.
- Unless enabling national policies and strong incentives/controls are enacted the pending extinction of northern cloud forests, especially in the northern regions Kañaris and Colasay regions will result in a marked reduction of fungal diversity and

ecosystem functionality that will likely affect climate and in the end wellbeing of people.

- **Description of key challenges**

  - Inclusion of fungi as key ecosystem components and indicators in National Environmental Plans and Policies.

  - Funding of non-streamline 'in vogue research' of key importance such as this research.

- **Planned next steps (as appropriate)**

Continued analysis of the work, further collection on the eat side of the Andes, write up and promo