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December 11 sees us again celebrate International Mountain Day; the theme for 2022 is "Women move Mountains"

It is timely to reflect on the importance of the world's mountains for a range of values and the contribution that women have and continue to make to their environmental protection and social and economic development.

Mountains are particularly important for their biodiversity, their storage and subsequent provision of fresh water, and their ecological contribution to clean air. Mountains contribute to cultural diversity, and in addition to their economic importance are valued for recreational, aesthetic, and spiritual reasons. They are income sources for communities through agriculture, tourism, and use of natural resources and are important for the minimizationnd

Along with many other areas, mountains are experiencing acute impacts associated with climate change. Climate change is influencing mountain ecological and geosystems at a faster rate than in other terrestrial habitats globally. Due to their high sensitivity, mountain ecosystems can serve as global early-warning systems for detecting climate-change impacts.

It is also widely noted that mountains may be affected disproportionately by climate change. Biodiversity in mountains is particularly vulnerable, as many montane species are adapted to narrow microhabitats, making them less able to adjust to climatic change. Climate change challenges include shifts in the distribution and movement of montane species and ecosystems with broad-ranging consequences.

The potential medium- to long-term impacts of climate change in mountain areas are predicted to include considerable and unprecedented change to their inherently fragile ecosystems, which are likely to be further altered by various human interventions. With ongoing global changes in climate and land use, the role of mountains as refugia for biodiversity may well be compromised.

The rich cultural diversity of mountains is well known. Isolation by rugged topographic barriers has contributed to the persistence of mountain cultures, and remoteness has kept many cultures relatively intact. Mountains are part of societal metageographies that help promote and define a sense of identity that is not dependent only on isolation but also in communal protection and human/environment interactions.

As the challenges of the 21st century affect biodiversity and ecosystem services, mountains and mountain communities will need to build ecological resilience to successfully cope with changes of such magnitude. Many communities and societies rely heavily on ecologically healthy mountainous areas for their well-being.

Protecting and conserving important mountain sites for biodiversity is vital for ensuring long-term and sustainable use of mountain natural resources. Such actions may also build resilience, recognizing that in many areas the current level of protection is relatively low.

The world's system of protected areas includes many noteworthy areas in mountainous regions. Outside Antarctica, about 19% of mountain areas are protected globally. However, many significant mountain areas are not adequately protected. Nearly 40% of the world's mountain ranges do not contain any protected areas.

Most of the world's mountain ranges are narrowly protected and lack elevational distributions needed to preserve biodiversity. Placing protected areas to better represent and connect elevational gradients will enhance ecological representation and facilitate species migration.

These dynamic aspects indicate the need for ongoing revision of protected areas and are of particular relevance in mountain environments.

Key Biodiversity Areas (KBAS) are sites contributing significantly to the global persistence of biodiversity. As indicators of geographic priority for species-level conservation efforts, they are an indicator of global biodiversity importance. Of the 6109 Key Biodiversity Areas located in mountains, 52% are less than 30% protected, and 40.4% are completely unprotected.

