

Why mountains matter in global sustainable development



Mountains provide vital goods and services for the benefit of all humankind, for supporting sustainable development at a global level, and for moving the world towards a greener economy. But provision of these goods and services is at risk. The global community must act – a new agenda for mountain development is urgently required.

Global sustainable development depends on mountain resources

Mountains cover 27% of the earth's land area. About 1.2 billion people or 17% of the world's population live in mountains or on their fringes. Mountains provide 60–80% of the world's freshwater resources for drinking, for lowland irrigation vital to food security, for industry, and for hydropower, the most important source of green energy, contributing 20% of global electricity generation. In drier areas, such as the Middle East, Central Asia, South Asia, and parts of Western North America, virtually all freshwater – 80–100% – comes from mountains. Mountains also supply important minerals and the genetic resources of major food crops. 17 of the 34 global biodiversity hotspots are in mountains. One third of all protected areas are in mountains; many of the world's largest cities including New York, Jakarta, Tokyo, Mumbai, Nairobi, Mexico City, and Bogota rely on such areas for their water supply. In an increasingly urbanised world, mountains are major destinations for recreation and tourism. The European Alps, with over 540 million overnights per year, are the second most important tourist destination worldwide after the Mediterranean coast. Tourism is also an increasingly important source of growth and employment in many mountain areas of developing countries.

Challenges to sustainable mountain development

Mountains worldwide are facing important challenges that threaten provision of these vital goods and services. Land degradation due to inappropriate farming practices and extractive industries (mining) is a major problem, exacerbated by population growth and ambiguous resource governance and tenure rights. 90% of the global mountain

population live in transition and developing countries. Close to 30% of them, or 300 million people, are vulnerable to food insecurity and many of them live in extreme poverty. Access to basic infrastructure such as health and education is often poor, increasing the marginalisation of mountain communities. Mountains are particularly susceptible to environmental hazards, causing disasters, such as devastating floods, landslides, or avalanches leading to loss of life, property, and livelihoods. Many mountain areas are in tectonically active zones with an increased probability of earthquakes and volcanic eruptions. At a global scale, 55% of mountain land is susceptible to earthquakes, as opposed to 36% of non-mountain land. Mountains are also very sensitive to climate change, as shown by the rapid melting of glaciers worldwide; the consequences reach far beyond mountain regions.



Market scene in the Andes of Peru (S.L. Mathez-Stiefel)



Mount Eyjafjallajökull, Iceland (Picture CDE)

Policy action for the world's mountains – and the future we want



Guiding principles

There is an urgent need for a new agenda at the global level to sustain mountain regions. This new agenda should be based on the following policy principles:

- **Mountain-specific strategies:** Mountains hold specific challenges and opportunities for development. Specific strategies are thus required for effective action, especially at the national level. International policy frameworks and conventions (UNFCCC, UNCBD, UNCCD) need to include specific programmes for mountains.
- **Transboundary cooperation and upstream–downstream linkages:** Many mountain ecosystems and the services they provide transcend national borders, and most benefit lowland areas. Strengthening transboundary and upstream–downstream collaboration will increase the effectiveness of interventions.
- **Governance and institutions:** Agenda 21 as a key reference for future action requires the involvement of all relevant stakeholders. Specifically, mountain populations must be involved in decision-making from planning to implementation.
- **Compensation for ecosystem goods and services:** Ensuring that mountain populations receive full compensation for the provision of ecosystem goods and services will enhance local livelihoods, reduce poverty, and ensure a sustained flow of these goods and services for the benefit of all.
- **Balance conservation and development:** Mountain ecosystems are often fragile, and their integrity is important. But mountain regions frequently also lag behind in development. Balancing conservation and development is thus important; sound regional knowledge can help to achieve this aim.

Policy action

1. **Sustainable Mountain Development Goals:** Specific strategies are required for effective policy action. We invite countries and regional bodies to design specific Sustainable Mountain Development Goals (SMDGs) by 2015, within the framework of national SDGs, indicating priority objectives and including an implementation plan.
2. **Water resources management:** Given the key role of mountain waters for global water supply, food security, and the provision of green energy, we invite countries and regional bodies to develop integrated water resource management strategies to be ready for implementation from 2017 onwards. These strategies should be based on a collaborative water basin approach.
3. **Green investment:** Mountain regions have a high potential for greening economies within and beyond mountains. In order to make full use of this potential, countries are invited to tap existing international finance mechanisms, to explore partnerships with the private sector, and to prepare a mountain green investment plan by 2017. Promising areas include green energy with a focus on sustainable hydropower generation; responsible mining and resource extraction; and promotion of small and medium-sized industry, tourism, agriculture, and biodiversity including agro-biodiversity.
4. **Disaster risk management:** Mountains are particularly vulnerable to natural disasters, with consequences far beyond mountain regions. We therefore invite countries to prepare mountain-specific disaster risk management plans by 2015, which integrate risk assessment, prevention, response, and recovery.
5. **Regional centres of competence:** Lack of mountain-specific knowledge hinders informed policymaking and effective action. Technologies and institutions which work well in lowland areas are often ill-adapted to mountain realities. There is thus a need to promote regional centres of competence to advance research and technology development, capacity building, and policy advice tailored to mountain areas.