

International Conference on
Green Economy and Sustainable
Mountain Development
Opportunities and Challenges in View
of Rio+20

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ICIMOD



FOR MOUNTAINS AND PEOPLE



Sustainable Mountain Development in the Context of the Green Economy and Rio+20

A Discussion Brief

Introduction: Towards a Green Economy and Sustainable Mountain Development

Mountains are an important source of vital ecosystem services and play a significant role in economic development, environmental protection, ecological sustainability, and human wellbeing worldwide. The global community recognised the importance of mountains at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil in 1992 through adoption of Chapter 13 in Agenda 21.

As the twentieth anniversary of the Rio summit approaches, we can see that Chapter 13 has not had the hoped-for impact, and sustainable mountain development has remained marginal in the international development agenda. Since the end of the twentieth century, the framework conditions for sustainable development have been gradually changing with climate change, globalisation, increasing urbanisation, institutional evolution, and other changes. These changes offer opportunities for revisiting the mountain agenda and bringing it forward.

Twenty years after the Rio summit, the Rio+20 conference to be held in 2012 will have green economy, in the context of sustainable development and poverty eradication, as one of its two thematic focuses. The green economy agenda seeks to promote a low-carbon economy in the framework of sustainable

development. The thesis of this discussion paper is that while these changes threaten and weaken mountain systems, they also present opportunities for building on their contributions to sustaining the regional and global environment and economy.

Mountain resources and services are a prerequisite for achieving the goals of a low-carbon economy on a global scale.

Mountainous developing countries already have low-carbon economies but have a high incidence of poverty. Millions of people live in a fragile mountain context and depend mainly on the natural environment for their livelihoods and wellbeing. Therefore, for developing countries with substantial mountain regions, **the issue is how to sustain the availability of ecosystem services, strengthen resilience, and promote low-carbon based economic growth to reduce poverty.**

ICIMOD, in collaboration with UNEP, has organised the International Conference on Green Economy and Sustainable Mountain Development to ensure that mountain systems, in particular in the Hindu Kush-Himalayan region, get due consideration in the current global debate on the green economy. The objectives of this brief are to set the context and flag critical issues to stimulate discussion; and to outline some strategies, approaches, and options for positioning the green economy agenda in relation to mountain systems, to be

explored in more depth during the conference. Further details and supporting evidence are available in the conference background paper.

What is the Importance of Mountains in the Green Economy and Rio+20?

Mountains harbour a wide range of natural resources and are an important source of vital ecosystem services which play a significant role in economic development, environmental protection, ecological sustainability, and human wellbeing. In addition to providing valuable products from agriculture, forestry, and fisheries, the highly dynamic mountain ecosystems provide services such as provision of fresh water, ground water recharging, water flow regulation, nutrient recycling, energy from water and biomass, and biological diversity. Other mountain ecosystem services that are crucial for the national, regional, and global environment and economy include carbon sink functions, soil conservation, flood control, climate moderation, and wind and monsoon regulation. Mountains also provide a variety of cultural, spiritual, and recreational services to humanity.

Mountains are home to millions of people, a substantial proportion of whom are indigenous ethnic communities whose livelihoods largely depend on natural resources available in mountain areas. **Economic growth and sustainability in the lowlands rely in large measure, directly or indirectly, on resources and services from mountains. Mountain ecosystems have an important role in strengthening resilience and sequestering carbon dioxide emitted elsewhere.**

On the other hand, mountain ecosystems are among the world's most fragile environments. If they become degraded or fail to generate services, the costs to the local, national, and global community could be huge. If we want to advance the green economy in the mountains and lowlands, mountain ecosystems must be conserved and developed to ensure a sustained flow of resources and services.

Mountain Regions Face Particular Challenges

Mountains are not only among the most fragile environments in the world; they are also among the ecosystems most vulnerable to climate change. Furthermore, mountain people are among the poorest in the world, and in a globalised world they are increasingly marginalised. The central issue for the sustainable development of mountain regions is how to keep the mountain systems green and strengthen resilience to climate change while reducing the level of persistent poverty and livelihood insecurity. A major challenge, therefore, is how to provide adequate incentives for mountain communities to behave as stewards and thus ensure a sustainable flow of resources.

Chapter 13 recognised the global significance of mountains, and in 1995 the third session of the United Nations

Commission on Sustainable Development recognised the need for mountain people and communities to receive a fair share of the benefits derived from the use of mountain resources.

Yet many mountain ecosystem services, especially regulatory services, continue to have no defined markets or prices. Their value in the local, national, and global economy and in environmental protection is not properly recognised in national policy decisions and resource allocation. A major challenge is the valuation of mountain ecosystem services, which have no direct market and are mostly public goods. The valuation of ecosystem services is a prerequisite for designing appropriate compensation mechanisms, but it is still new and unrefined.

Because mountain ecosystem services are generally undervalued, mountain communities do not receive adequate incentives for conserving and developing critical natural resources. Inadequate incentives and low investment – coupled with increasing demand for mountain products and services due to human population growth, urbanisation, industrialisation, and globalisation – have contributed to **increased degradation and depletion of natural resources, loss of biodiversity and ecosystem services, and global warming, which threaten the lives and livelihoods of millions of people living in the mountain areas of developing countries as well as billions of people living downstream.**

What Opportunities does a Green Economy Represent for the Mountain Regions of Developing Countries?

The conventional economic approach has not taken sufficiently into account the depletion and degradation of natural capital or the value of ecosystem services provided by the mountains. **The green economy concept recognises the value of ecosystems and their services in production and consumption and thus offers an opportunity for mountain regions to receive compensation, both for the benefits they provide to national, regional, and global communities and for following a low-carbon development path.**

Since UNCED there has been a drive at the global and national levels to develop better policies, strategies, and regulatory frameworks for conserving ecosystem services. The role of mountain ecosystem services has also been increasingly recognised. **Markets are emerging for certain mountain goods and services** such as biodiversity, medicinal and aromatic plants, non-timber forest products, ecotourism, and watershed hydrological services (particularly in the context of hydropower development).

A variety of mechanisms have evolved for financing conservation and development of mountain ecosystem services and providing incentives to mountain people for their conservation efforts. These include incentive-based mechanisms such as payments for ecosystem services (PES) and Reducing Emissions from Deforestation and Forest Degradation (REDD and REDD+); and

market-based instruments such as green certification and labelling for mountain niche products, green marketing, bioprospecting, and ecotourism development. A new World Bank programme announced in 2010 to promote inclusion of natural resources in national accounting and gross domestic product (GDP) is an example of a type of initiative that could bring benefits to mountain regions.

An important issue is how to create markets for mountain ecosystem services, and how to help existing markets function better. This means overcoming obstacles such as unclear property rights, high transaction costs, market distortion due to national and sectoral policies, misplaced priorities, short-term gains, poor infrastructure, and inadequate institutional support.

Global green investments, transfer of green technology, renewable energy investments, and low-carbon strategies for management of land, water, soil, and forests may have potential to help mountain regions receive carbon credits from global investors. Targeted investments for reducing the currently high production of black carbon through simple, decentralised technology can permit mountain areas to make a direct contribution to climate change mitigation.

Specific gains for mountain regions could include

- enhanced production and processing of ecosystem products and services as a result of green investments;
- right prices and rewards from proper valuation of goods and services;
- reduced impact of disasters;
- land-based employment opportunities (e.g., in agriculture and horticulture) and reduced poverty.

However, these approaches are still at a rudimentary stage; appropriate policy and institutional mechanisms need to be put in place before mountain people can benefit from the opportunities in a significant way. Additional research is required to develop the methods and tools needed for valuing ecosystem services. In addition, national policies and institutions need to provide a conducive environment for tapping the opportunities and ensuring that mountain people benefit from them.

Policies and Institutional Measures to Ensure that Mountain Regions Benefit from the Green Economy: a Three-Pronged Approach

To address the challenges discussed above and harness the opportunities created by the drive towards a green economy, a comprehensive policy and institutional framework is required at three levels: national, regional, and global.

National governments have the authority and responsibility for enacting policies and laws and developing compensation mechanisms for environmental services and goods provided by mountain areas. National policies and institutions should be

geared towards creating enabling conditions for conserving and developing mountain ecosystem resources, reducing poverty, and meeting the specific development needs of mountain regions.

Many of the mountain-specific ecosystems and their services are transboundary in nature, thus demanding regional cooperation for their conservation and management.

Global commitment to sustainable mountain development translates into international support in terms of finance, technology, capacity building, and knowledge sharing.

The following are some proposed institutional approaches at the three levels.

National Level

- **Develop policies for institutionalising incentives and compensation for mountain ecosystem services in national plans and programmes**, and make mountain ecosystem conservation central to economic decision making. Place mountain ecosystems within the development and environment perspective to achieve the twin goals of conservation and poverty reduction.
- **Internalise the costs and benefits of conserving mountain ecosystems in national wealth accounting, resource allocation, and development plans**. The costs of producing environmental goods and services need to be factored into the design of policies, strategies, programmes, and projects. In this way the costs and benefits of mountain ecosystems will be integrated into actual prices, markets, and incentive structures.
- **Promote markets for mountain ecosystem services**. Encourage the private sector through appropriate policy and regulatory support such as clear property rights and access and benefit sharing frameworks so that market can become an option for financing mountain ecosystem management.
- **Modify or correct policy, institutional, and market failures** related to undervaluation of mountain ecosystem services or failure to recognise them in national economic decision making.
- **Invest in mountain regions** to unlock their potential in the green economy and sustainable development, e.g., for energy, water, high-quality agricultural products, and nature-based and organic products. Investment in mountain regions will generate long-term benefits. Owing to the positive externalities, investment in mountains brings high welfare gains. To attract green investment in mountain areas, governments may grant financial support such as low-interest loans or exemption from certain regulations, to build up economies of scale and competitiveness.
- **Create a conducive environment for investment in mountains and green infrastructure**, and provide incentives for promoting industry and business for the benefit

of the communities. As the returns from green sectors (e.g., conservation and management of forests, watersheds, soil, rangelands, and glaciers) comes only after some time, government support (direct or indirect) is necessary at least in the initial stages to attract private investment.

Regional Level

- **Promote and strengthen networks and partnerships** among mountain regions. International and regional development and research organisations should facilitate transfer of knowledge and experience as well as capacity building for key mountain institutions.
- **Promote regional mechanisms for the compensation of ecosystem services** provided by upstream communities.
- **Strengthen value chains** to benefit mountain communities.
- **Strengthen the information and knowledge base** on sustainable mountain development and make it accessible to all concerned.
- **Use transboundary approaches** to address issues of water management, biodiversity, and protected areas, and establish regional funds for management of transboundary ecosystem resources.

Global Level

- **Create compensation mechanisms and markets for globally significant mountain ecosystem services** such as biodiversity and carbon sequestration. Establish institutional mechanisms for providing economic incentives to conserve mountain ecosystems and improve the lives of mountain communities.
- **Remove trade barriers and price distortions** on green goods and services of mountain regions.
- **Pursue a global commitment** to conservation and low-carbon development of mountain ecosystems. Provide adequate financing targeted to the mountain regions of developing countries for conservation and development of globally significant ecosystems. Support technology transfer and capacity building for institutions engaged in development of mountain regions.
- **Strengthen and expand alliances** of organisations that are committed to mountains to lead and undertake the process of sustainable mountain development beyond Rio+20.
- **Strengthen research** on mountain systems of global relevance.

What Actions Demand Priority in the Green Economy Conference and Rio+20?

To ensure sustainable mountain development and the contributions of mountains to global sustainable development, the scope of the mountain agenda needs to be expanded well beyond the watershed management focus of Chapter 13. The recommendations for Rio+20 can be grouped in the following key priority areas.

- **Recognise benefits deriving from mountain regions.** Mountain systems provide unique services which not only support mountain people but also contribute to the Earth's sustainability and prosperity through upstream-downstream ecosystem dynamics. To promote green economy in the mountains and lowlands, the benefits from mountain ecosystems need to be recognised in the international debate on green economy and at Rio+20.
- **Recognise the common stake in conservation and development of mountain ecosystems.** Most mountain ecosystems services are public goods generating positive externalities. Their benefits go far beyond the mountains. Economic growth and sustainability in the lowlands depend highly on mountain ecosystem services, directly or indirectly. Therefore, mountain ecosystems are global natural capital and the global community has a responsibility for their conservation and sustainable development, for global wellbeing.
- **Establish principles and instruments to provide adequate incentives and compensation for conservation of mountain ecosystem services.** It may be necessary to create dedicated global green funds, for example within UNFCCC or World Bank schemes for long-term investments, and to make the national public sector basically responsible for monitoring them. In the meantime, the private sector can concentrate on short-term green investments.
- **Pursue a three-pronged policy approach** focused on global responsibilities, regional interests, and national tasks.
- **Target mountain ecosystems within national, regional and global policy frameworks** to ensure they receive the attention they need in view of their special characteristics (e.g., the cryosphere, critical gene pools), to prevent them from being overlooked because of their relatively small scale or specific biophysical conditions.

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