

FAO's Work in Sustainable Mountain Development and Watershed Management—A 2015 Update

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FAO's Work in Sustainable Mountain Development and Watershed Management—A 2015 Update



As many of the world's poor and food-insecure people live in mountain regions, sustainable mountain development is an important part of the work of the Food and Agriculture Organization (FAO) of the United Nations (UN). Over the years, FAO has played the leading role in sustainable mountain development within the UN system; it was appointed task manager for chapter 13 of agenda 21 in 1992 and acted as the lead agency for the International Year of Mountains in 2002. From 2003 onward, FAO was also mandated by the UN General Assembly to lead the annual observance of International Mountain Day on 11 December. Every 2 years, FAO prepares the secretary general's report to the UN General Assembly, which describes the status and progress of sustainable mountain development at the national and international levels and provides suggestions for consideration by the Assembly. FAO is a member of the Mountain Partnership and hosts its secretariat. This review of the latest actions of FAO's program on sustainable mountain development, watershed management, and forest hydrology—which includes normative work, field activities, and support to international processes—updates our previous statement (Manuelli et al, 2014) and summarizes the latest achievements of the Mountain Partnership.

A knowledge organization

As a knowledge organization, the Food and Agriculture Organization (FAO) of the United Nations (UN) creates and disseminates critical information about food, agriculture, and natural resources—setting standards, strengthening political will, sharing policy expertise, and acting as a neutral international

forum with the aim of promoting debate among different actors and sectors. But this is not a one-way flow. By turning knowledge into action, FAO links the field to national, regional, and global initiatives in a mutually reinforcing cycle.

FAO's mountain development and watershed management program contributes directly to 2 objectives of FAO's strategic framework: to make agriculture, forestry, and fisheries more productive and sustainable (objective 2 of the framework), and to increase the resilience of livelihoods to disasters (objective 5; see <http://www.fao.org/docrep/018/mi317e/mi317e.pdf>).

Since the publication of *Forests and Water: International Momentum and Action* (FAO 2013), the Forests and Water Agenda—an international process for addressing forest–water interactions—has progressed to an implementation stage. The Forests and Water Action Plan embodies the transition from discourse to action and was developed by multiple stakeholders representing international organizations, nongovernmental organizations, academic and research institutions, and the private sector. The action plan calls for the collaboration of the forest and water sectors and the adoption of integrated landscape management. It also proposes guidelines to improve scientific research, policy, and practice, including the flow of information among these 3 areas.

World Forestry Congress and International Forests and Water Dialogue

On 7–11 September 2015, about 8000 people are expected to participate in the 14th World Forestry Congress in

Durban, South Africa (www.fao.org/about/meetings/world-forestry-congress/en/). As an organizing partner, FAO will showcase a number of key forestry topics. In addition, the forest and water issue will be highlighted at the 2-day International Forests and Water Dialogue.

This event will innovatively present the latest scientific findings as well as successful institutional mechanisms and on-the-ground practices related to forest and water management in order to encourage discussion and interest among World Forestry Congress participants. The ultimate goal of the event is to invite participants to join the Forests and Water Agenda and to gain commitment for implementing the 5-year Forests and Water Action Plan, which will be officially launched on 9 September 2015.

Responding to earthquakes

In Pakistan, FAO conducted a beneficiary impact assessment of the watershed management component of a project carried out between 2007 and 2011 to restore livelihoods in the areas affected by the devastating earthquake of 2005. It was found that the project had increased the resilience of local communities affected by recurrent natural disasters. This became apparent during floods in 2010–2012, which caused relatively little physical damage to the project area as communities were better prepared to cope with the disaster. The watershed management approach promoted by FAO shows tangible impacts on beneficiaries, and the results of the Pakistan case are serving as a basis to design other landscape rehabilitation projects. In particular, lessons learned from the Pakistan experience

FIGURE 1 View of a mountain range and river, Jalal-Abad Oblast, Kyrgyzstan. (Photo copyright Food and Agriculture Organization, by Sergey Kozmin)



are informing plans for the response to the 2015 Nepal earthquakes.

New-generation watershed programs

FAO has embarked on a review of recently completed projects to collect the lessons learned from the field application of its resource book *The New Generation of Watershed Management Programmes and Projects* (FAO 2006). The review focuses on the methodologic features used when designing and implementing the projects, such as the criteria for selecting field sites and prioritizing interventions and the steps involved in preparing a watershed management plan. The aim is to better understand the approaches used by the different project teams and the thinking behind them. The study will comprise a comparative analysis, a set of best practices and case studies, and a practical how-to guide including recommendations for field-level practitioners and decision-makers engaged in watershed management.

Field program

FAO helps countries tackle mountain issues through capacity development, institutional strengthening and on-the-ground activities. Currently, the Mountain and Watershed Team is implementing several projects in different mountain regions (Box 1).

Another project, Poverty Alleviation and Combating Desertification through Collaborative Watershed Management, implemented between 2010 and 2015 in 2 countries of the Maghreb region (Mauritania and Morocco) and 2 Andean countries (Ecuador and Peru), offered a unique opportunity to promote a harmonized approach to watershed management, build capacity, support institutional development, and provide evidence-based policy advice. Close collaboration with national institutions supported a large number of diversified activities to fight land degradation, desertification, and poverty and their

integration in a watershed management plan (Box 2).

In addition, FAO's Mountain and Watershed Team and Climate

BOX 1 Selected current projects

- Sustainable Management of Mountain Forests and Land Resources of the Kyrgyz Republic under Climate Change Conditions, sponsored jointly with the Global Environmental Facility (Figure 1)
- Vulnerability Reduction to Contribute to Rural Development in the Municipalities of Coatán and Upper Suchiate Watersheds in the Department of San Marcos in Guatemala
- The second phase of the Fouta Djallon Highlands Integrated Natural Resources Management Project in West Africa
- Management of Chimborazo's Natural Resources, Ecuador, funded jointly with the Global Environmental Facility

BOX 2**Poverty Alleviation and Combating Desertification through Collaborative Watershed Management****Results**

- Improved techniques for sustainable natural resource management and conservation (such as reforestation, pasture management, soil conservation and rehabilitation, and protection and management of riversides and water sources) as well as for wood consumption reduction (solar panels and improved stoves and ovens)
- Improved household income and local diet through goat milk production and school and kitchen gardens
- A clearer understanding of the interrelated nature of environmental issues in the watershed through a participatory multistakeholder process
- Additional domestic resources for improving local infrastructures and providing technical advisory services

Lessons learned

- Study tours and exchange visits prove to be the most efficient way to develop the capacities of local farmers, technicians, and authorities as well as to promote a positive and realistic attitude toward required production and organizational changes.
- Improved techniques for natural resource conservation and production have a better chance of success if they are linked to traditional know-how and focus on livelihoods and income improvement to compensate participants for their work and investment (Figure 2).
- A combination of activities at the field and institutional levels is essential to promote comprehension and implementation of the landscape and collaborative watershed management approach.
- The collaborative watershed management plan must be coherent and harmonized with any other existing or foreseen local development plans.
- Direct involvement of national and local entities is essential to leverage co-financing and to internalize project experiences.

Change Team have joined forces and developed a proposal to build climate resilience in upland watersheds, which builds on the application of watershed management as an integrated landscape approach.

International processes

Recognition of the importance of mountain ecosystems has increased considerably at all levels as a result of FAO's conferences, its participation in global events and UN conventions, and its support for such international processes and initiatives as the Mountain Research Initiative and the Global Mountain Biodiversity Assessment Programme.

FAO also hosts the Secretariat of the Working Party on the Management of Mountain Watersheds, a technical body under the European Forestry Commission. Over the past year, a new governance and strategy paper was approved and sent to all European Forestry Commission member countries. New thematic working groups on forest and water and natural hazards have

started work. The Working Group on Natural Hazards has conducted 2 international workshops on hazard-zone mapping with a focus on countries from Southeast Europe and Central Asia.

In March 2015, during the third UN World Conference on Disaster Risk Reduction in Sendai, Japan, the longstanding cooperation between FAO and the International Consortium on Landslides was renewed when they signed, together with other institutions, the International Strategy for Disaster Reduction and International Consortium on Landslides Sendai Partnerships 2015–2025 for Global Promotion of Understanding and Reducing Landslide Disaster Risk.

The Mountain Partnership

The MP is a UN voluntary alliance of governments, intergovernmental organizations, and civil society organizations dedicated to improving the lives of mountain people and protecting mountain environments. Since its launch during the World Summit on

Sustainable Development in 2002 in Johannesburg, South Africa, the MP has steadily grown and, as of May 2015, has more than 250 members.

The MP Secretariat (MPS) was established to support and serve MP members and raise the mountain agenda worldwide. Its work focuses primarily on advocacy, communications, capacity development, and brokering initiatives. The MPS advocates for the well-being of mountain communities and environments at global and regional levels and promotes the inclusion of mountains at strategically chosen events. It engages with UN convention secretariats, participates in global processes, and is currently preparing the 2015 UN secretary general's report on sustainable mountain development.

In 2013 and 2014, the MPS organized 7 events in New York to promote the inclusion of mountains in the Sustainable Development Goals. Thanks to these gatherings, which were well attended by MP government and civil society members based in North America, and to an international advocacy

FIGURE 2 Improving income and diets through goat milk production in Morocco. (Photo copyright Food and Agriculture Organization, by Mustapha Azdad)



campaign promoted by the MPS and carried out in collaboration with key MP members, mountains were included in the final draft of the UN Open Working Group for Sustainable Development Goals (Box 3)—emphasizing the crucial ecosystem services that mountains provide to a large part of humanity.

The MPS has also developed an indicator to monitor progress on these proposed goals based on the green cover of mountain areas, according to the UN definition of mountains. Monitoring changes in the green cover will make it possible to verify the conservation status of mountain areas, building on the

BOX 3 **Mountains and the draft of Sustainable Development Goals**

Proposed goal 6: Ensure availability and sustainable management of water and sanitation for all.

6.6 By 2020 protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

Proposed goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt

and reverse land degradation and halt biodiversity loss.

15.1 By 2020 ensure conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.

assumption that vegetation of any kind—including forest, pasture, grassland, and agricultural crops—has a protective function, and that bare land is an indication of degradation and erosion.

Since 2008, MPS and the University of Turin, Turin, Italy, have organized an annual International Programme on Research and Training on Sustainable Management of Mountain Areas. Beginning in 2015, the University of Milan, Milan, Italy, will also participate; this year's theme is food security. Following a request from members to organize similar initiatives in Latin America, a course in Costa Rica will be organized with Tropical Agricultural Research and Higher Education Center, ProalSUR, and Fundación para el Desarrollo de la Cordillera Volcánica Central in August 2015.

In collaboration with the Italian government, the MPS is implementing a project to establish a globally recognized mountain product label and improve market access by promoting equitable value chains and fair enterprise development in mountain regions for high-quality, high-value mountain products.

In 2014, 6 South American governments—Argentina, Bolivia, Chile, Colombia, Ecuador, and Peru—all MP members, came together to form a regional mechanism to foster dialogue and coordination among Andean governments and organizations dedicated to sustainable development in mountain ecosystems. Recognizing the need for integrated management of the Andean mountains, the regional mechanism will further strengthen and deepen cooperation to sustainably improve the lives of communities in the Andean highlands.

Communication activities include producing key publications on sustainable mountain development (FAO 2015), taking an active role in the celebration of International Mountain Day, and sharing mountain

news and events via the MP website, the monthly *Peak to Peak* newsletter, and the MP Facebook page. As a contribution to the 2015 International Year of Soils, the MPS, in collaboration with FAO and the University of Turin, has produced a publication on mountain soils.

The MPS is also producing, in collaboration with the FAO Statistics Division and the geoinformatics team of the Centre for Development and Environment of the University of Bern, Bern, Switzerland, a study of vulnerability in mountains that is aimed at collecting, analyzing, and disseminating sound data on a global scale on the vulnerability of mountain people to hunger as well as tracking changes across the past decade.

Outlook

Following the adoption in 2013 of the reviewed strategic framework, FAO's work in sustainable mountain development and watershed management is increasingly strengthening collaboration across sectors and in an integrated landscape approach, allowing a better, more targeted response to member states. FAO is engaging with several partners to implement the Forests and Water Action Plan at local, national, and regional levels.

The MPS will continue to implement the 4-year strategy and work plan approved at the MP's fourth global meeting in Erzurum, Turkey, in 2013. In particular, it will focus on expanding its resource base.

Links

For further information on FAO's multidisciplinary focus on sustainable mountain development, see the following websites:
www.mountainpartnership.org/about/en/
www.fao.org/forestry/internationalmountainday/en/
www.fao.org/forestry/watershedmanagementandmountains/en/
www.fao.org/forestry/37705/en/

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