The Kenyan National Soil and Water Conservation Program: A Report on Experience in Meru Central District, Mount Kenya

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The Bishkek Mountain Platform

Outcome of the Bishkek Global Mountain Summit, 28 October 2002–1 November 2002

MRD Editor-in-Chief Hans Hurni was a member of the planning commission for the Bishkek Global Mountain Summit (BGMS), the culminating event of IYM2002. The comments below offer his perspective on the Bishkek Mountain Platform, officially approved at the BGMS. They are followed by the complete text of this important document.

The Bishkek Global Mountain Summit, held 29 October to 1 November 2002 in Bishkek, Kyrgyzstan, was the culminating global event of the International Year of Mountains. Organized by the government of Kyrgyzstan with support from the United Nations Environment Programme (UNEP) and other partners, the Summit was attended by more than 600 delegates from 60 countries.

I was particularly pleased to attend the summit for 3 main reasons. Firstly, long before the Summit I gladly joined the BGMS Advisory Board, which met several times in preparation for the event. Secondly, I was invited by the Swiss Government to become a member of the Swiss delegation to the Summit. Thirdly, the involvement of the Centre for Development and Environment (CDE) in several programs in Central Asia since 2000 had already brought me to this fascinating region many times prior to the Summit.

The Kyrgyz hosts made every effort to ensure that the Summit was a big success. The official opening, where much of Central Asia's—and particularly Kyrgyzstan's—spiritual and cultural heritage was evident in the audience, will remain unforgettable. Apart from presentations and statements by many high-level representatives from all over the world in the plenary sessions, many parallel sessions were offered for participants—up to 16 at a time—which sometimes made it rather difficult to choose. My personal input at the Summit was facilitation of the results of the Pamir Strategy Project workshop in Khorog, together with representatives of the GBAO Government. Of course, this symposium was only one of numerous Summit events open to participants.

The Summit produced a number of very concrete results. For example, the governments of Italy and Switzerland pledged support to enable the International Year of Mountains Coordination Unit at FAO to continue its work in 2003. The Swiss and Italian contributions will also allow FAO to help develop a secretariat to support the International Partnership for Sustainable Development in Mountains, which was launched at the World Summit on Sustainable Development (WSSD) in Johannesburg in September 2002.

A key product of the Bishkek Global Mountain Summit was the Bishkek Mountain Platform. This statement is presented in full below. It builds on the many substantial declarations developed at other major global events on mountains. It was prepared by representatives of participating and attending institutions, and presented to the Summit by the Government of Kyrgyzstan, which has forwarded it to the United Nations General Assembly for consideration. The purpose of the Platform is to provide guidance to governments and others on how to improve the livelihoods of mountain people, protect mountain ecosystems, and use mountain resources more wisely. Most important, it provides a framework for action at the international, regional, national and local levels, which can be used in follow-up activities and to enforce initiatives launched during IYM2002.

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The Bishkek Mountain Platform

1. Objectives

The Bishkek Mountain Platform is an outcome of the Bishkek Global Mountain Summit, the culminating global event of the International Year of Mountains 2002. The objective of the Platform is to continue with existing initiatives and to develop significant efforts beyond the Year by mobilizing resources, giving orientation and guidance, and promoting synergies. In particular, it will provide a framework for stakeholders and others to contribute to sustainable development in the world's mountain regions. It will enable them to act together at all levels from local to global to improve the livelihoods of mountain people, to protect mountain ecosystems, and to use mountain resources more wisely. The Platform should, furthermore, serve as a contribution to debate in the General Assembly of the United Nations and to the achievement of the Millennium Goals (see p.89).

2. Background

The Bishkek Mountain Platform builds on the rich experience embodied in documents on sustainable mountain development, beginning with Chapter 13, "Managing

Fragile Ecosystems: Sustainable Mountain Development," of Agenda 21 of the UN Conference on Environment and Development in Rio de Janeiro in 1992. The ensuing process culminated in the International Year of Mountains, which was initiated by the Government of the Kyrgyz Republic. The objectives of the Year are to "promote the conservation and sustainable development of mountain regions, thereby ensuring the wellbeing of mountain and lowland communities." In preparation for, and during, the Year, many meetings on different aspects of sustainable mountain development have been held, and their resolutions and declarations have also contributed to the Platform. A series of thematic papers, prepared for the Bishkek Global Mountain Summit by international specialists and developed further through electronic consultations, have also contributed to the Platform. Furthermore, it takes into consideration the recommendations of Paragraph 40 of the Plan of Implementation of the World Summit on Sustainable Development in Johannesburg in August 2002.

3. Challenges

Mountain areas cover 26% of the Earth's land surface and host 12% of its people. Mountains provide vital resources for both mountain and lowland people, including freshwater for at least half of humanity and critical reserves of biodiversity, food, forests, and minerals. They are culturally rich and provide places for the physical and spiritual recreation of the inhabitants of our increasingly urbanized planet.

The people of mountain areas face major challenges. About half of the world's approximately 700 million mountain inhabitants are vulnerable to food shortages and chronic malnutrition. Mountain people, particularly disadvantaged groups such as women and children, suffer more than others from the unequal distribution of assets and from conflicts.

Policy decisions influencing the use of mountain resources are generally made in centers of power far from mountain communities, which are often politically marginalized and receive inadequate compensation for mountain resources, services and products. Mountain ecosystems are exceedingly diverse but fragile because of their steep slopes, altitude, and extreme landscapes. Many of these ecosystems are being degraded because farmers are forced to apply unsustainable agricultural practices and by inappropriate development.

Climate change, natural hazards, and other forces also threaten the complex webs of life that mountains support. The consequences of poverty and environmental degradation reach far beyond mountain communities, through war, terrorism, refugee movements, migration, loss of human potential, drought, famine, and escalating numbers of landslides, mudslides, catastrophic floods, and other natural disasters in highlands and lowlands. Moreover, the rapid melting of mountain glaciers and degradation of watersheds is reducing the availability of life-sustaining water and increasing the potential of conflict over dwindling supplies.

4. Declaration

We, the participants in the Bishkek Global Mountain Summit, the culminating global event of the International Year of Mountains, pledge our long-term commitment and determination to achieving the goals of sustainable development in mountain areas. We are committed to protecting the Earth's mountain ecosystems, reducing poverty and food insecurity in mountain areas, promoting peace and economic equity, and providing support for current and future generations of mountain people—women and men, girls and boys—to create the conditions in which they can shape their own goals and aspirations.

5. Guiding principles

We support participatory, multi-stakeholder, multi-disciplinary, eco-regional, decentralized, and long-term approaches that respect the principles of subsidiarity, human diversity, human rights, gender equity and the environment. We value and build upon both indigenous and scientific information and knowledge.

6. Framework for action

We call on the UN and its organizations, countries, international and non-governmental organizations, businesses, grassroots organizations, scientists, and individuals to jointly invest their resources in mountain areas. We also call on financial institutions, including the Global Environment Facility, to continue and increase their support. It will take all of us, working in partnership, to achieve our goals. We see this framework as guidance for the coming decades, recognizing that the details will be developed by partners.

6.1. Actions at the international level

UN Resolution:
We suggest that the International Year of Mountains Focus Group of the UN develop a UN resolution on sustainable development in mountain regions. The resolution might provide guidance for the UN and its agencies to develop policies and programmes in accordance with the objectives and principles of the Platform and invite further cooperation and enhancement of actions in mountain regions worldwide. Furthermore, we encourage the Focus Group to highlight the vital interrelationships between mountains and freshwater resources, particularly in

the context of the International Year of Freshwater 2003, and to consider the establishment of a World Mountain Day.

International Partnership:
We support the International Partnership for Sustainable Development in Mountain Regions, a "Type 2" outcome of the World Summit on Sustainable Development in Johannesburg in August 2002. We welcome the offer of the Food and Agricultural Organization to host the secretariat of the Partnership and bring the Inter-Agency Working Group on Mountains to its service. We call on UNEP to ensure environmentally sound management in mountain regions, in particular in developing countries, by strengthening environmental networking and assessments, facilitating regional agreements, and encouraging public—private sector cooperation. We count on the continuing and increasing involvement of UNDP, UNESCO, UNU, other UN agencies, multilateral development banks, other international organizations, and countries.

The structure and working modalities will be further elaborated to ensure an effective partnership. We invite interested organizations and countries to join the Partnership and ensure its financial sustainability.

We welcome the proposal to create, within the context of the Partnership, an international Network of Developing Mountain States and Regions and support the establishment of a working group for its further elaboration.

Capacity development:
We believe that capacity development at all levels is essential to improve the competence of mountain stakeholders and to enhance understanding of mountain processes, problems, needs, opportunities, and assets. This should involve all sectors of education, nongovernmental organizations, governments, decision-makers, and international agencies.

Science and technology:
We invite the scientific community and its funding agencies, at international and national levels, to promote international partnerships and programmes of research, monitoring, and early warning in support of sustainable development in mountain regions. We particularly emphasize that initiatives should focus on biophysical as well as political, social, economic, and cultural aspects and that they apply disciplinary, interdisciplinary, and transdisciplinary approaches, thereby contributing to integrated understanding of problems and opportunities for sustainable mountain development.

6.2. Actions at the regional (supra-national) level

Regional focus:
We are convinced that transboundary mountain regions have specific environmental, social, political, cultural, and economic characteristics and potential for development and therefore require specific approaches and resources.

Regional cooperation:
We urge that development and conservation in transboundary mountain regions and between upstream and downstream stakeholders be coordinated between all partners affected or involved.

Regional agreements:
We support formal instruments such as charters, conventions, and integrated policies to foster international cooperation between states sharing mountain areas.

6.3. Actions at the national level

Governance:
We call upon national governments to apply the principle of subsidiarity by delegating political decisions to the lowest possible level of decision-making, from national to subnational to community, corporate, and private responsibilities.

Policy advocacy:
We invite national governments to develop legislation, policies, and procedures in favor of their mountain areas, particularly those that are marginalized in terms of economic and social development, and to set their national priorities accordingly. We also invite political parties and governments to become involved with international initiatives, provided that these are accepted at the local level.

Mountain-specific data:
We recognize that the lack of spatially disaggregated socio-economic and environmental data hampers the recognition and specific analysis of mountain livelihood issues. We encourage governments to produce, publish, and use mountain-specific data to improve policies for sustainable mountain development, especially in relation to dominant lowland economies.

Investment and compensation mechanisms:
We are convinced that economic disparities between mountains and their surrounding areas can be reduced through investment and other means. We encourage governments to introduce compensation mechanisms for goods and services provided by mountain communities, enterprises, or natural and cultural landscapes through negotiations between affected people and beneficiaries.

Providing access:
We recognize that the physical nature of mountain regions hinders access in many ways. In particular, we call upon governments to use information and communications

technologies to bring benefits to mountain people.

6.4. Actions at the local level

Local stewardship:
We support local governance and ownership of resources, individual freedom, cultural self-determination, and traditional belief systems, which lie at the core of sustainable development in mountain areas, especially where the economic influence of external forces is high.

Local development:
We urge all stakeholders to ensure that local livelihoods are improved, that economic entrepreneurship is fostered, and that environmental protection and sustainable use of natural resources is guaranteed. External partners should seek to support local initiatives when requested to do so.

Millennium goals

- To eradicate extreme poverty and hunger: the stated overall goal is to reduce the proportion of people living on less than $1 a day to half the 1990 level by 2015—from 29% of all people in low and middle income economies to 14.5%. If achieved, this would reduce the number of people living in extreme poverty to 890 million (or to 750 million if growth stays on track).
- To achieve universal primary education.
- Promote gender equality and empower women.
- Reduce child mortality.
- Improve maternal health.
- Combat HIV/AIDS, malaria, and other diseases.
- Ensure environmental sustainability.
- Build a global partnership for development.

The Need to Assess Water as a Risk Factor: Swiss Re Publications on Water

Swiss Re

Water has always played a major role in insurance, particularly in the form of storms or torrential rain, causing floods or triggering land- and mudslides. Modern risk research is clear on one factor: in the future, water will gain pivotal importance—as an issue affecting society, ecology and the economy.

Water is a basic necessity of life. And yet, the ongoing pollution and depletion of global water resources, together with the rapidly increasing world population and its growing demand for potable water, are putting an ever-greater burden on this precious commodity. This trend has disastrous consequences for health and nutrition, and it represents a threat to both ecosystems and future economic development. Climate change only serves to compound these problems. Swiss Re is committed to sustainable development and regards its involvement in the water issue as an obligation that is part of its wider corporate social responsibility.

Corporate commitment

Swiss Re is committed to:
- Promoting expertise and awareness of water-related problems among its clients, shareholders, and employees.
- Engaging in constructive dialogue on water issues as a contribution towards establishing legal frameworks, guidelines, and best practice methods.
- Including specific risk selection and safety criteria, as well as preventive measures, in its risk transfer concepts. These same fundamentals apply both to the way the company manages its investments and to its corporate properties.
- Supporting eco-efficient water initiatives launched by government, the scientific community, and industry.

The way water is handled as a natural resource has an immediate impact on the insurance sector and involves both risks and opportunities. The risks are well known and lie primarily in the area of liability. However, water also presents opportunities as it shifts from being a public good to a commercial product, necessitating new insurance concepts and offering investment potential.

The Water Factor information package contains several short publications on various aspects of water and the challenges that lie ahead. It is one illustration of the constructive role Swiss Re is playing in the water dialogue.

Water availability

The debate on water availability clearly shows that current trends in water consumption are not sustainable, either locally in the short term or globally in the medium term.

In 1995, just under 50% of the world population was living under so-called "water-stressed" conditions, water stress being defined as per capita water availability of 1700 m^3 or less. If current supply and demand trends continue, at least 3.5 billion people—or 59% of the world population—will be living under such conditions by 2025,

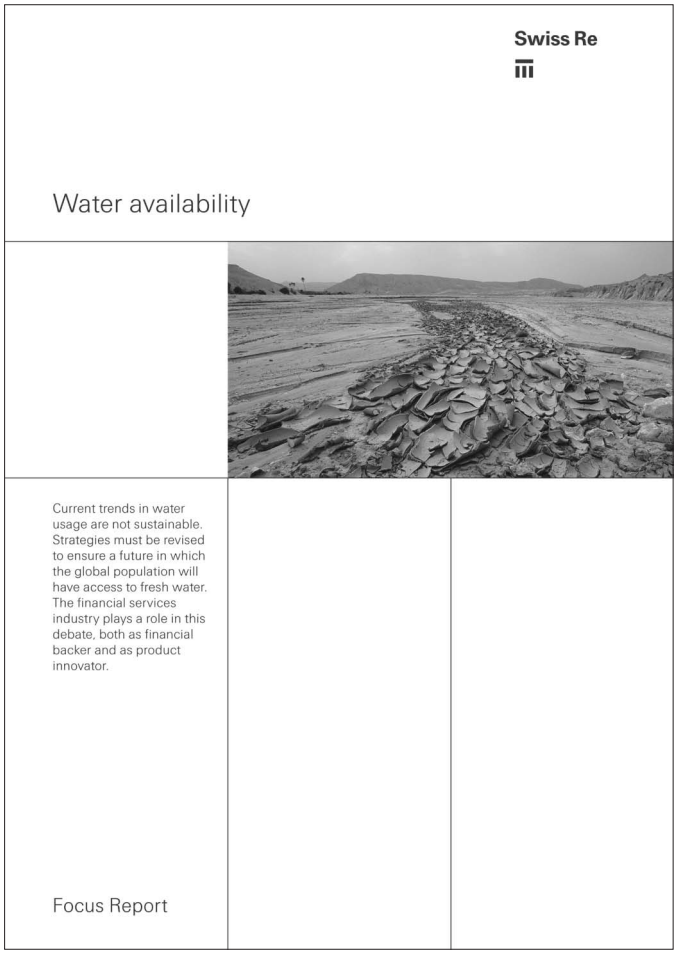

FIGURE 1 *Water Availability* is one of four publications on the topic of water published by Swiss Re.

while a third will be living in regions facing water scarcity, ie with less than 1000 m^3 freshwater available per capita per year.

Water quality

Potable-grade water has already become scarce in many regions of the world. Water pollution resulting from human activities, the depletion of water reserves and aquifers caused by rising population levels, and the squandering of this vital resource worldwide may assume huge proportions, making corrective action increasingly difficult to implement.

Problems relating to water quality and wastewater facilities are further aggravated by population growth and migration to urban areas—trends that are set to continue in the future. Even major cities in many industrialized countries still discharge untreated urban wastewater.

Throughout the world, vast quantities of industrial waste contaminated by chemical compounds continue to be discharged directly into the waterways, even though sewage networks and sanitation systems are in place.

Upcoming water publications

The information package consists of 4 publications. Whereas publications on the 2 issues mentioned above—*Water Quality* and *Water Availability*—were issued in early 2002, a new publication on *Large Dams* will be added soon, and one on *Ocean Pollution* will follow in May 2003.

How to order *The Water Factor*

All publications in *The Water Factor* (and other Swiss Re publications) can be downloaded from www.swissre.com (Research & Publications> Swiss Re publications>Focus reports). They can also be ordered by email from publications@swissre.com. Ask for a specific issue by referring to the title or for the whole package entitled *The Water Factor*.

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The Kenyan National Soil and Water Conservation Program
A Report on Experience in Meru Central District, Mount Kenya

Meru Central District, with a population of about 0.5 million and a total area of 3,000 km^2 (1,600 km^2 of arable land, 1,000 km^2 of gazetted forest, and 400 km^2 that belong to Mount Kenya National Park) is 1 of 6 districts surrounding Mount Kenya. Agricultural production is very high in this mountainous area.

The National Soil and Water Conservation Program (NSWCP) lasted from 1974 to 2000. In the last 10 years of the program a catchment approach was emphasized. Efforts and resources were concentrated in a catchment for 1 year. Problems and opportunities were identified with land users in a participatory manner, and further development activities were

planned. The agricultural extension service was the main local project partner; it took a leading role in disseminating technology and improving land husbandry practices. A baseline study found that both human activities and changing environmental conditions contributed to environmental degradation in Meru District. Concerted project interventions were undertaken to protect and sustain the mountain environment.

Human factors

- High population pressure, leading to increased demand for wood;
- Over-exploitation of indigenous trees for commercial purposes;
- Cutting of indigenous trees (ie, *mugumo*, *mukundukundu* and *mukuu*) with protective functions;
- Accelerated erosion caused by overgrazing;
- Expansion of cultivation in marginal areas (steep slopes, woodlands, etc);
- Severe erosion on fields caused by drained road runoff;
- Poor land husbandry practices (carrying capacity not properly assessed and land use not planned);
- Forest fires due to harvesting of honey;
- Air, soil and water pollution due to waste dumped in forests.

Environmental factors

- Greater incidence of drought, drying up some streams and springs;
- Floods in flat regions and severe soil erosion on slopes due to 1997/1998 El-Niño rainfall;
- Loss of vegetation cover and accelerated erosion due to diseases and pests;
- Elephants straying onto farmland (especially near parks and reserves);
- More frequent whirlwinds on barren ground, leading to accelerated soil erosion.

Interventions

- Policy shift towards integrated management of water resources and formation of water users' associations;
- Community education in soil and water management, water harvesting, and agroforestry by agricultural extension;
- Community education on the importance of indigenous tree species (timber, medicine, biodiversity) and reforestation of areas where trees were cut;
- Guarding of forests by the Kenya Wildlife Service and the Forest Department;
- Modifications in land husbandry practices (terracing, contour plowing, runoff management, conservation agriculture);
- Building of solar electric fences along forest boundaries to prevent elephants from destroying crops on adjacent farms.

Successes

The local communities took on responsibility for their own development. There were great achievements in conservation activities, water harvesting, water management structures, and land husbandry practices. River banks and water sources are now better protected. In addition, several tree nurseries were established and the number of trees (especially *Grevillea robusta*) on farms increased.

Disappointments

Some farmers expected incentives, while others were not willing to implement recommended measures. Thus on steep slopes, runoff from these farmers' fields devastated fields downslope. In some cases catchment committees became ineffective shortly after termination of the program. The agricultural extension service increased its efforts, but collaboration with other local government authorities was often insufficient, for example when it came to planning better road design or discussing how to improve local infrastructure.

Conclusions and recommendations

Land users in the Meru Central District exploit their environment to earn a livelihood. This is evidenced by the success of SWC efforts described above; *Grevillea robusta* agroforestry was very important. The impact of drought and increasing water scarcity has drawn local and national attention: there are efforts at both levels to conserve and preserve mountain environments. While tree harvesting was traditionally allowed only for old trees that had fallen due to age, timber merchants and some dishonest officers in the provincial administration have colluded to allow living trees to be cut.

The following steps are recommended to address environmental challenges in the District:

- Assess the current demand for forest products;
- Assess farmers' preferences in using various tree species for timber, medicine, fodder and fruit;
- Establish a demonstration site where vanishing indigenous tree species are planted to exemplify reduced mountain forest encroachment and high-value tree species.

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