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Ninth meeting

Montreal, 10-14 November 2003

Item 5.5 of the provisional agenda*

MOUNTAIN ECOSYSTEMS

Mountain biodiversity: proposed programme of work

Note by the Executive Secretary

EXECUTIVE SUMMARY

1. At its fourth meeting, held in Bratislava in 1998, the Conference of the Parties selected mountain biodiversity as one of the three themes for in-depth consideration at its seventh meeting (decision IV/16, annex II). At its sixth meeting, in 2002, the Conference of the Parties welcomed, in its decision VI/30, the proposals presented by the Executive Secretary in his note on preparations for the seventh meeting of the Conference of the Parties (UNEP/CBD/COP/6/2) and requested that such preparations continue as outlined in the note.

2. In order to provide advice to the Conference of the Parties, the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) considered mountain biological diversity as the main theme of its eighth meeting, held in Montreal from 10 to 14 March 2003. The Subsidiary Body adopted the structure, elements and goals of the proposed programme of work on mountain biological diversity, as contained in annex I to its recommendation VIII/1 A. Due to time constraints, the Subsidiary Body could only develop an indicative list of possible actions to be taken under the different goals of the proposed programme of work and decided to complete its work at its ninth meeting.

3. In order to gather as much information as possible on actions to be carried out under each programme element and goal, the Subsidiary Body:

(a) Requested the Executive Secretary to consult with Parties, other Governments and relevant organizations on the proposed programme of work on mountain biological diversity, and prepare a list of actions for possible inclusion in the proposed programme of work; and

(b) Established an Ad Hoc Technical Expert Group on Mountain Biological Diversity with the mandate to:

* UNEP/CBD/SBSTTA/9/1.

- (i) Review the suggested actions contained in the proposed programme of work on mountain biological diversity, as stated in annex I to SBSTTA recommendation VIII/1 A;
- (ii) Review the results of the consultation referred to in sub-paragraph (a) above and consider them for inclusion in the proposed programme of work on mountain biological diversity; and
- (iii) Identify gaps in suggested actions, and include new actions whenever appropriate, under the relevant programme elements and programme goals;

4. Accordingly, the Executive Secretary convened, with the support of the Government of Italy, a meeting of the Ad Hoc Technical Expert Group on Mountain Biodiversity held in Rome, from 1 to 3 July 2003, with the terms of reference as approved by SBSTTA at its eighth meeting. The report of the Expert Group is contained in document UNEP/CBD/SBSTTA/9/INF/11.

5. The Executive Secretary is circulating herewith the programme of work developed by the Expert Group for consideration by SBSTTA. The programme of work contains the programme elements and goals adopted by SBSTTA at its eighth meeting and the actions developed by the Expert Group following the guidance provided by the Subsidiary Body, i.e., taking into account the actions suggested during the eighth meeting of SBSTTA, and suggestions from Parties, other Governments and organizations.

SUGGESTED RECOMMENDATIONS

The Subsidiary Body on Scientific, Technical and Technological Advice may wish to:

- (a) Welcome the report of the Ad Hoc Technical Expert Group on Mountain Biodiversity (UNEP/CBD/SBSTTA/9/INF/11);
- (b) Express its gratitude to the Government of Italy for its financial support to the work of the Ad Hoc Technical Expert Group, and to the other Governments and international organizations for the participation of their representatives;
- (c) Also express its gratitude to the Co-Chairs, the experts and the Secretariat of the Convention on Biological Diversity for their work regarding the Ad Hoc Technical Expert Group on Mountain Biodiversity;

6. SBSTTA may also wish to recommend that the Conference of the Parties:

- (a) Adopts the proposed programme of work on mountain biological diversity, contained in to the present note as a set of actions addressing characteristics and problems that are specific to mountain ecosystems;
- (b) Urges Parties to incorporate, as appropriate, the activities recommended in the proposed programme of work into their national biodiversity strategies and action plans, and implement them taking into account the ecosystem approach and the particular national and local conditions so as to contribute to the significant reduction of the rate of mountain biological diversity loss by 2010;
- (c) Encourages Parties, other Governments and organizations to ensure cross-referencing to, and coherence with, the other thematic programmes of work while implementing this programme of work;

(d) Invites Parties to identify priorities for every goal and adopt outcome oriented targets for mountain biodiversity, taking into account the Strategic Plan of the Convention, the Global Strategy for Plant Conservation, the Plan of Implementation of the World Summit on Sustainable Development and the Millennium Development Goals;

(e) Recognizes the need for resources, human, technological and financial capacity, to implement effectively the activities in the proposed programme of work;

(f) Invites Parties, other Governments, and relevant organizations to report on implementation of this decision and the programme of work through, *inter alia*, their reports submitted to the Conference of the Parties;

(g) Requests the Executive Secretary to:

- (i) Compile information received from Parties, other Governments and relevant organizations and bodies, on the implementation of the programme of work, and analyse progress made towards the achievement of a significant reduction in the rate of mountain biodiversity loss by 2010;
- (ii) Assist the Parties in implementing the programme of work through, *inter alia*, the supporting activities defined in the programme of work, and the development, in collaboration with relevant organizations, of proposals for global and, where appropriate, regional targets or expected measurable outputs with timeframes and main actors; and
- (iii) Regularly gather information on the characteristics and problems that are specific to mountain biological diversity listed in paragraph 6 of the proposed programme of work;

(h) Further requests the Executive Secretary to strengthen collaboration with other organizations, institutions and conventions, as a way to streamline many of the activities contained in the proposed programme of work; promote synergies and avoid unnecessary duplications;

(i) Notes that the notes by the Executive Secretary on status and trends of, and threats to, mountain biological diversity (UNEP/CBD/SBSTTA/8/5), and on measures taken for the conservation and sustainable use of mountain biological diversity (UNEP/CBD/SBSTTA/8/6), can be a basis for the identification of priorities for early action, and recognizes that the relative importance of threats, and their underlying causes will vary by region and country, and, accordingly, requests the Executive Secretary to update this information as part of the reviews of the implementation of the thematic programmes of work in collaboration with Parties and relevant organizations, in particular the Global Mountain Biodiversity Assessment among others, and making use of all available information;

(j) Emphasizes the importance of mountain biodiversity for livelihoods, and therefore requests the Executive Secretary to compile and disseminate information linking mountain biodiversity to sustainable development and poverty alleviation, and examples of successful collaboration between mountain dwellers and communities living in areas adjacent to mountains (as a way to illustrate the “upland-lowland contract”).

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THE PROPOSED PROGRAMME OF WORK ON MOUNTAIN BIODIVERSITY*

A. *Introduction*

1. Mountain areas cover almost one quarter of the Earth's land surface and host about 12% of its human inhabitants. Additionally, mountains provide vital natural resources for lowland peoples. Mountains are both a unique environment in their own right, and one that incorporates many of the existing thematic programmes under the Convention. For example, forests, inland waters, dry and sub-humid lands and agricultural programme elements can all be found in mountain biological diversity. The present programme of work on mountain biological diversity features goals and activities that are specific to mountain biological diversity, although the existing programmes of work on forests, inland waters, agricultural, and dry and sub-humid land biological diversity also apply to mountain ecosystems. As a result, the goals and activities contained in the existing programmes of work of each of these thematic areas should also be applied and implemented, whenever appropriate, for their respective areas in mountain ecosystems.

2. Mountain biological diversity is of high importance for a number of ecological functions. The integrity of soils is the prime focus for ecosystem services and human needs. Soil retention and slope stability are closely connected with the extent of above-ground and below-ground vegetation, both essential to ecosystem resilience after disturbance. The high plant functional diversity of mountain ecosystems may also add to their resiliency and, should extreme disturbances occur, often provides effective barriers to high-energy events such as rock falls and avalanches. It also may reduce extensive damage levels at lower elevations. Although it has been to date impossible to provide a thorough definition of mountains with both universal application and acceptance, there are a number of characteristics that are unique to mountain ecosystems. These are referred to in the note by the Executive Secretary on the status and trends of, and threats to, mountain biodiversity prepared for the eighth meeting of SBSTTA (UNEP/CBD/SBSTTA/8/5).

3. Information and input from international forums may also be taken into account, particular, chapter 13 of Agenda 21, which relates to sustainable mountain development, and the World Summit on Sustainable Development, which also considered mountain ecosystems. Paragraph 42 of the Plan of Implementation of the World Summit, states that:

“Mountain ecosystems support particular livelihoods, and include significant watershed resources, biological diversity and unique flora and fauna. Many are particularly fragile and vulnerable to the adverse effects of climate change and need specific protection.”

The Plan of Implementation proposed a number of specific actions to be undertaken in regard to mountains. The 2002 International Year of the Mountains also provides valuable input. In addition, a number of international agreements and bodies, institutions, and programme initiatives may be considered such as the Convention on Wetlands, (Ramsar, Iran, 1971), the United Nations Convention to Combat Desertification (UNCCD), the United Nations Framework Convention on Climate Change (UNFCCC), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Centre for Integrated Mountain Development (ICIMOD), the International Centre for Agricultural Research in the Dry Areas (ICARDA),

* Sections A and B below are extracted from SBSTTA recommendation VIII/1 A

the International Partnership for Sustainable Development in Mountain Regions, the International Human Dimensions Programme on Global Environmental Change (IHDP), the Centre for Mountain Studies, the Consorcio para el Desarrollo de la Ecoregion Andina (CONDESAN), the Mountain Research Initiative (MRI), the Global Mountain Biodiversity Assessment (GMBA) of DIVERSITAS, the International Union of Forest Research Organizations (IUFRO), the Alpine Convention, and the World Conservation Monitoring Centre (WCMC).

B. Overall purpose and scope of the programme of work

4. The overall purpose of the programme of work is the significant reduction of mountain biological diversity loss by 2010 at global, regional and national levels, through the implementation of the three main objectives of the Convention on Biological Diversity.

5. The implementation of the programme of work aims at making a significant contribution to poverty alleviation in mountain ecosystems and in lowlands dependent on the goods and services of mountain ecosystems and thereby contribute to the objectives of the Strategic Plan of the Convention on Biological Diversity, the Plan of Implementation of the World Summit on Sustainable Development, and the Millennium Development Goals.

6. The programme of work focuses on addressing characteristics and problems that are specific to mountain biological diversity. These include:

(a) The particularly high concentration of biological diversity hotspots in mountain regions, including high ecosystem diversity, high species richness, high number of endemic and endangered species, and high genetic diversity of crop, livestock, and their wild relatives;

(b) The fragility of mountain ecosystems and species and their vulnerability to human and natural disturbances, in particular to land-use change and global climate change;

(c) The upland-lowland interactions that characterize mountain ecosystems, in particular with relation to water and soil resources;

(d) High levels of cultural diversity, and the particularly key role of indigenous and local communities in the conservation and management of mountain biological diversity.

7. The programme of work also seeks to avoid duplication with existing thematic work programmes and other existing initiatives of the Convention on Biological Diversity. Parties are encouraged to apply, where appropriate, the objectives and activities from these thematic work programmes to the conservation of mountain biological diversity, the sustainable use of mountain biological diversity, and the equitable sharing of benefits arising from the utilization of genetic resources.

8. The programme of work is intended to assist Parties in establishing national programmes of work with targeted goals, objectives, and actions, with specific actors, timeframes, inputs, and expected measurable outputs. Parties may select from, adapt, and/or add to, the goals, objectives and actions suggested in the current programme of work according to particular national and local conditions, and their level of development. Implementation of this programme of work should take into account the ecosystem approach of the Convention on Biological Diversity. In determining national programmes of work, Parties are encouraged to pay due regard to the social, economic, and environmental costs and benefits of various options. In addition, Parties are encouraged to consider the use of appropriate technologies, sources of finance, and technical cooperation, and to ensure, through appropriate actions, the means to meet the particular challenges and demands of their mountain ecosystems.

C. Programme elements, goals and actions

**PROGRAMME ELEMENT 1: DIRECT ACTIONS FOR CONSERVATION, SUSTAINABLE
USE AND BENEFIT-SHARING**

Goal 1.1: To prevent and mitigate the negative impacts of key threats to mountain biological diversity

Actions

- 1.1.1. Reduce the impacts of inappropriate land-use practices and changes in urban, forest and agricultural areas in mountain ecosystems, including the buffer zones of protected areas, so as to ensure the maintenance of biodiversity, in particular ecosystem integrity.
- 1.1.2. Develop mechanisms and implement measures to reduce human-induced slope instability and to maintain and/or enhance soil stability and ecosystem integrity by way of a diverse and dense vegetation cover that will also promote soil biodiversity function.
- 1.1.3. Prevent or mitigate the negative impacts of economic development, infrastructure projects and other human-induced disturbances (mining, communication towers, electricity generation, outdoor activities, etc.) on mountain biological diversity at all levels, taking into consideration the results of environmental and social impact assessment, paying particular attention to cumulative impacts.
- 1.1.4. Develop strategies specific to mountains ecosystems to prevent the introduction of invasive alien species and, when they have been introduced, control and eradicate them and/or minimize their negative impacts on mountain biological diversity.
- 1.1.5. Monitor and exchange information on the impacts of global climate change on mountain biological diversity, and identify and implement ways and means to reduce the negative impacts.
- 1.1.6. Implement measures to reduce key pressures in mountain ecosystems such as deforestation, illegal logging, inappropriate reforestation or afforestation, land degradation, disruption of water flow, and consequent losses of biological diversity (see also decision VI/22).
- 1.1.7. Identify factors responsible for the retreat of glaciers in some mountain systems and implement measures to minimize the impact of this process on biodiversity.
- 1.1.8. Identify local and long-range pollution (air, water and soil), which threaten mountain biodiversity at all levels and take appropriate measures to prevent and mitigate the impacts.

Supporting activities of the Executive Secretary

- 1.1.9 Compile, in collaboration with relevant bodies and organizations, and disseminate through the clearing-house mechanism and other means:
 - (a) Information on degraded mountain ecosystems as well as key threats to mountain biodiversity and their ecological and socio-economic impacts;
 - (b) Case-studies, lessons learned and best-practice guidance on ways to prevent and mitigate the negative impacts of key threats to mountain biodiversity.

Goal 1.2: To protect, recover, and restore mountain biological diversity

Actions

- 1.2.1. Develop and implement programmes to restore degraded mountain ecosystems and maintain biological diversity in order to enhance the capacity of mountain ecosystems to resist and adapt to climate change, or recover from its negative impacts including, *inter alia*, by establishing corridors to enable vertical migration of species, ensuring minimal viable population sizes to enable genetic adaptation to changing environmental conditions.
- 1.2.2. Initiate specific activities to facilitate maintenance, protection and conservation of existing levels of endemic species, with a focus on narrowly-distributed taxa.
- 1.2.3. Identify and protect unique, fragile mountain ecosystems, biological diversity hotspots and their associated species, especially threatened species, giving priority consideration to measures aimed at strict *in situ* protection and/or developing *ex situ* mechanisms whenever feasible.
- 1.2.4. Develop strategies for land-use planning at landscape level using the ecosystem approach, taking into account elements of ecological connectivity and to prevent and mitigate losses of mountain biological diversity due to fragmentation and land-use conversion.
- 1.2.5. Establish and strengthen adequate, effective national and regional networks of mountain-protected areas, in accordance with decisions of the Conference of the Parties on protected areas, while respecting the rights and full participation of indigenous and local communities.
- 1.2.6. Identify suitable practices for enhancing ecosystem sustainability, with particular emphasis on degraded slopes.
- 1.2.7. Address issues related to conflict between humans and other species, especially with regard to coexistence with predators.
- 1.2.8. Examine the representativity and sustainability of existing protected areas and take measures to identify and address gaps and weaknesses, to ensure representativity with a wide ecological range.

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- 1.2.9 Develop and implement measures to restore freshwater networks for migratory species, taking into account the physical barriers such as those represented by dams for fish.

Supporting action of the Executive Secretary

- 1.2.10 Collaborate with relevant organizations and bodies to compile and disseminate information on:
- (a) Components of biodiversity important for conservation, in particular, on mountain endemic species, hotspots and their associated species and threatened species;
 - (b) Best practices for their conservation, sustainable use and benefit-sharing.
- 1.2.11 Compile and disseminate case-studies on methods and economic aspects of restoration of degraded mountain ecosystems and recovery of mountain endangered species.

Goal 1.3: To promote the sustainable use of mountain biological resources

Actions

- 1.3.1. Promote sustainable land-use practices in relation to human livelihood needs (agriculture, animal husbandry, forestry, aquaculture, inland water fisheries, etc.) in mountain ecosystems, taking into account the Convention guidelines for sustainable use. 2/
- 1.3.2. Promote sustainable land-use practices, techniques and technologies, including those of indigenous/local communities and community-based management systems, for the conservation and sustainable use (including hunting and fishing) of wild flora and fauna and agro-biodiversity in mountain ecosystems, including biological pest control.
- 1.3.3. Support activities of indigenous and local communities involved in the use of traditional mountain-related knowledge, in particular concerning sustainable management of biodiversity, soil, water resources and slope.
- 1.3.4. Promote partnerships between all stakeholders, including indigenous and local communities, involved in the sustainable use of mountain biological resources. (see also goal 2.3)
- 1.3.5. Develop criteria in the framework of the draft Convention Guidelines on Biodiversity and Tourism Development in accordance with the ecological conditions of mountains ecosystems and promote the use of these guidelines. 3/
- 1.3.6. Through appropriate environmental planning, manage the reduction of the negative impacts of tourism and outdoor activities on mountain ecosystems, as well as the development of associated human settlements and facilities, e.g., waste disposal facilities, ski lifts and runs, roads, and associated infrastructure.

2/ The Conference of the Parties will consider the Addis Ababa principles and guidelines on sustainable use at its seventh meeting.

3/ At its eighth meeting in March 2003, SBSTTA recommended that the Conference of the Parties adopt the draft guidelines (recommendation VIII/5, annex). They will be considered at the seventh meeting of the Conference of the Parties.

- 1.3.7. Strengthen local capacity for sustainable tourism management, in order to ensure that benefits derived from tourism activities are shared by local communities, while preserving natural and cultural heritage values.
- 1.3.8. To promote the sustainable cultivation of economically useful wild plants, e.g., medicinal, edible and aromatic plants, as an income-generating activity for the local inhabitants.
- 1.3.9. Promote integrated watershed management practices at all levels for maintaining ecosystem integrity, soil stability, upstream-downstream inter-connections and protection against natural hazards.

Goal 1.4: To promote access to, and sharing of benefits arising from the utilization of genetic resources related to mountain biological diversity in accordance with national legislation where it exists

Actions

- 1.4.1. Strengthen the capacity of indigenous and local communities, particularly those living in developing countries and who may be vulnerable to exploitation, to have access to genetic resources related to mountain biological diversity and to engage in equitable benefit-sharing arrangements (taking into account the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization).
- 1.4.2. Develop methods to assess and conserve genetic resources of high economic value for promoting fair and equitable sharing of benefits, respecting national legislation on access to genetic resources.
- 1.4.3. Promote actions that are beneficial for conservation through generating employment and/or income particularly for marginal communities.

Goal 1.5: To maintain genetic diversity in mountain ecosystems in particular through the preservation and maintenance of traditional knowledge and practices

Actions

- 1.5.1. Assess and develop strategies aimed at minimising the threat of genetic erosion on domesticated biodiversity (crops, animals), paying particular attention to the origin of the genetic resources.
- 1.5.2. Implement provisions contained in Article 8(j) on traditional knowledge and related provisions of the Convention on Biological Diversity, taking into consideration the needs of developing countries.
- 1.5.3. Conserve, develop, validate and implement sustainable use practices for plants, animals and microorganisms genetic resources at species, population and community level.
- 1.5.4. Document indigenous knowledge, practices, processes and technologies to ensure conservation, sustainable use of biodiversity and sharing of benefits.

**PROGRAMME ELEMENT 2: MEANS OF IMPLEMENTATION FOR CONSERVATION,
SUSTAINABLE USE AND BENEFIT SHARING**

Goal 2.1. To enhance the legal, policy, institutional, and economic framework

Actions

- 2.1.1. Identify and address perverse incentives and/or policies that may impede the implementation of the Convention on Biological Diversity in mountain ecosystems, taking into account the decisions of the Conference of the Parties on incentive measures.
- 2.1.2. Develop and introduce appropriate incentives and market mechanisms for the maintenance of ecosystem goods and services.
- 2.1.3. Promote the diversification of income-generating activities in support of conservation and sustainable use of mountain biological diversity and poverty reduction, including methods to share economic wealth, i.e., within mountain regions through regional development plans and between regions through “upland-lowland contracts”. ^{4/}
- 2.1.4. Improve the science/policy linkages by undertaking national and subnational scientific assessments of the causes of biodiversity loss, including making policy recommendations, in order to reduce the rate of loss of mountain biological diversity by 2010.
- 2.1.5. Develop performance measures and report on the integration of conservation and sustainable use of mountain biological diversity into institutional programmes, including sectoral policies, legal and economic frameworks.
- 2.1.6. Strengthen legal and institutional capacity to implement the work programme on mountain biological diversity, especially through national focal points, institutes and other relevant stakeholder groups.
- 2.1.7. Develop and implement legal and policy strategies for land-use planning at the landscape level, taking into account elements of ecological integrity and connectivity, while emphasizing upstream-downstream relations and the prevention of losses of mountain biological diversity due to fragmentation and land-use conversion.
- 2.1.8. Support proactive planning and adaptive measures to reduce the vulnerability to both natural and human-induced hazards adversely impacting on mountain biological diversity, cultural landscapes and local communities.
- 2.1.9. Encourage the implementation of environmental and social impact assessments at sectoral, programme and project levels. Take into account cumulative impacts, to prevent the negative impacts of economic development on mountain biological diversity, by observing decision VI/7 A of the Conference of the Parties on incorporating

^{4/} The concept was described by Professor Christian Körner, Professor of Botany at the University of Basel and Chairman of the Global Mountain Biodiversity Assessment in his keynote presentation at the eighth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice in March 2003 as follows: The upland-lowland contract concept establishes joint responsibilities between lowlanders and uplanders. Under this concept, uplanders would, for example, be responsible for taking care of the fragile upland mountain landscape to reduce potential impacts on lowlanders. In return, lowlanders may be able to provide uplanders with the products of lowland cultivated areas (food and other resources).

biodiversity-related issues into environmental-impact-assessment legislation or processes and in strategic impact assessment.

Supporting activities of the Executive Secretary

- 2.1.10. Collate and disseminate, e.g., through the clearing-house mechanism and other appropriate means, case-studies of best practice of international and national efforts to enhance the legal, policy, institutional and economic frameworks to conserve and sustainably use mountain biodiversity.

Goal 2.2. To respect, preserve, and maintain knowledge, practices and innovations of indigenous and local communities in mountain regions

Actions

- 2.2.1 Promote the implementation of activities aimed at maintaining existing levels of agrobiodiversity, agro-ecosystems and the goods and services they provide both for meeting local demands and to ensure sources of food security.
- 2.2.2. Respect and understand the traditions and sustainable practices of the indigenous and local communities in mountain regions in ways which accommodate their needs, participation, knowledge and practices for conservation and sustainable use of mountain biodiversity (taking into account Article 8(j) of the Convention and related decisions from the Conference of the Parties and programmes of work).
- 2.2.3 Promote networking, collaborative action and participation of indigenous and local communities in decision-making processes, paying particular attention to the empowerment of women, in order to maintain mountain biodiversity and its sustainable use.
- 2.2.4 Encourage decentralization and enhance access to information for the full participation and involvement of indigenous and local communities in decisions that affect them in relation to mountain ecosystems.
- 2.2.5 Promote the implementation of activities aimed at the improvement of mountain livelihoods, poverty reduction and the maintenance of cultural self-determination, in order to achieve sustainable use of mountain biological diversity.
- 2.2.6. Develop capacity-building measures and information-sharing to facilitate the involvement of indigenous and local communities, with their prior informed consent, in the management, conservation, and sustainable use of mountain biological diversity.

Goal 2.3. To establish regional and transboundary collaboration and the establishment of cooperative agreements

Actions

- 2.3.1. Promote integrated transboundary cooperation, supported by legislation for sustainable activities on mountain ranges. Protocols should cover specific thematic issues such as landscape, soil, watershed, rangeland, mining, protected areas and wildlife management, agriculture, forestry, transportation, energy and tourism.

- 2.3.2. Promote and strengthen regional and transboundary cooperation for research, adaptive management, and exchange of expertise to improve the conservation and management of mountain biodiversity, e.g., Global Mountain Biodiversity Assessment (GMBA) and International Centre for Integrated Mountain Development (ICIMOD).
- 2.3.3. Promote the appreciation and conservation of mountain biological diversity as a means of reducing human conflict, i.e., through peace parks.
- 2.3.4. Strengthen collaboration and synergies between the work programmes of the Convention on Biological Diversity and other global conventions and agreements on climate change, desertification, transboundary pollution, invasive alien species and endangered species, with a special focus on mountain systems and their biological diversity.
- 2.3.5. Encourage the development of new methodologies and new mechanisms, such as the upland-lowland contract, to implement cooperative agreements that sustain mountain biodiversity and the provision of goods and services.

PROGRAMME ELEMENT 3: SUPPORTING ACTIONS FOR CONSERVATION, SUSTAINABLE USE AND BENEFIT-SHARING

Goal 3.1. To develop work on identification, monitoring and assessment of mountain biological diversity

Actions

- 3.1.1 Promote the monitoring of susceptible areas subject to climate change.
- 3.1.2 Conduct mountain surveys in priority areas, for conservation and sustainable use of mountain biological diversity. These surveys should consider inventories at genetic, species and ecosystem levels.
- 3.1.3 Apply, whenever appropriate, the programmes of work of the global initiatives such as the Global Taxonomy Initiative, Millennium Ecosystem Assessment and the Global Invasive Species Programme.
- 3.1.4 Support the work of the Global Mountain Biodiversity Assessment.
- 3.1.5 Use national biodiversity strategies and action plans and other national reports to the Convention, for monitoring and assessment of mountain biodiversity.

Goal 3.2. To improve knowledge on and methods for the assessment and monitoring of the status and trends of mountain biological diversity, based on available information.

Actions

- 3.2.1. Develop key abiotic, biotic and socio-economic indicators of status and change of mountain ecosystems.
- 3.2.2. Develop and select international, regional and national criteria and, where appropriate, quantifiable indicators for mountain biological diversity, taking into account the work of

the Convention on monitoring and indicators and the knowledge held by indigenous and local communities, together with other experience of sustainable mountain management.

- 3.2.3. Develop methodologies for assigning value to the ecological services provided by biodiversity-rich land management systems in order to develop economic-incentive mechanisms for compensating the poor and vulnerable mountain communities.
- 3.2.4. Assess and address the changing status of both local and long-range pollution and global climate change issues with special relevance to mountain ecosystems.
- 3.2.5. Assess and address fragmentation and impacts on biodiversity, by changing land-use management practices, e.g., land abandonment, mining.
- 3.2.6. Assess and address the positive and the negative impacts of tourism and outdoor activities in mountain ecosystems.

Goal 3.3. To improve the infrastructure for data and information management for accurate assessment and monitoring of mountain biological diversity and develop associated databases

Actions

- 3.3.1. Enhance and improve the technical capacity at a national level to monitor mountain biological diversity, benefiting from the opportunities offered by the clearing-house mechanism of the Convention on Biological Diversity, including the development of associated databases as required at the global scale to facilitate exchange.
- 3.3.2. Promote repatriation of existing information on biodiversity and related databases.
- 3.3.3. Encourage mapping and inventory of biodiversity and of land-use changes, using analogue and digital databases (Remote Sensing Geographic Information System) for scientific purposes and for supporting decision-making.

Supporting activity of the Executive Secretary

- 3.3.4. Enhance the capacity of the clearing-house mechanism to facilitate the implementation of goal 3.3.

Goal 3.4. To improve research, technical and scientific cooperation, and other forms of capacity building related to mountain biological diversity

Actions

- 3.4.1. Conduct long-term research on species adaptability to changing environmental conditions under climatic or human-induced global change, in relation to mountain biological diversity.
- 3.4.2. Conduct key research on the role and importance of mountain biological diversity and ecosystem functioning, considering ecosystem components, structure, function, processes and services.

- 3.4.3 Develop and support research to assess the role of soil biological diversity and the diversity of protective forests for the stability and safety of mountain areas and watershed protection, e.g., avoidance of erosion, landslides and avalanches.
- 3.4.4 Initiate mechanisms and develop collaborative research/scientific programmes of mutual interest among countries with mountains, especially those having common problems and comparable socio-cultural conditions.
- 3.4.5 Foster exchange of experiences and knowledge of sustainable development and ecosystem vulnerability among countries with mountains, taking into account the vulnerability of social-cultural systems and communities.
- 3.4.6 Conduct interdisciplinary, key research programmes on mountain biological diversity, and its relationship to ecosystem structure and functions, including communities-based management, with special reference to transitional zones linking upland-lowland ecosystems such as ecotones, hotspots, buffer areas and corridors.
- 3.4.7 Develop capacity and enhance opportunities for community-based research and monitoring to conserve mountain biodiversity and provide greater benefits to mountain communities.

Supporting activity of the Executive Secretary

- 3.4.8 Explore and quantify the benefits of a diverse, intact vegetation cover in catchments for water and hydroelectric yield.

Goal 3.5. To increase public education, participation and awareness in relation to mountain biological diversity

Actions

- 3.5.1. Promote educational and capacity-building systems tailored to the specific conditions of mountain ecosystems, such as workshops, courses, study tours, community exchanges, communications from the Convention on Biological Diversity, education and publications efforts, in line with the Global Initiative on Communication, Education and Public Awareness (Decision VI/19 of the Conference of the Parties).
- 3.5.2. Increase awareness of the potential contribution of knowledge, practices and innovations of indigenous and local communities to conserve and sustainably use mountain biological diversity, i.e., biodiversity documentation, inventories by community and other appropriate levels.
- 3.5.3. Encourage the implementation of sustainable tourism activities aimed at increasing awareness, respect and knowledge for mountain biological diversity, including knowledge of the local, natural and cultural landscapes.
- 3.5.4. Increase dissemination of knowledge on upland-lowland interactions.
- 3.5.5. Further promote the education of women and their role in the conservation and dissemination of traditional knowledge.

Goal 3.6. To promote the development, validation, and transfer of appropriate technologies for mountain ecosystems, including indigenous technologies in accordance with Article 8(j) of the Convention on Biological Diversity and related provisions

Action

- 3.6.1 Implement the programme of work on technology transfer, 5/ giving particular attention to matters relating to the conservation and sustainable use of mountain biodiversity.

Supporting activities of the Executive Secretary

- 3.6.2 Document best practices and appropriate technologies and innovative approaches to managing biodiversity.
- 3.6.3 In collaboration with relevant organizations, provide Parties with access to appropriate and latest technologies and innovations relating to mountain biodiversity.

5/ To be considered by the Conference of the Parties at its seventh meeting.