



Secretariat of the
Convention on Biological Diversity



INTERNATIONAL
DAY FOR BIOLOGICAL
DIVERSITY
22 May 2008
**BIODIVERSITY
AND AGRICULTURE**

STATEMENT BY THE EXECUTIVE SECRETARY

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DISASTER REDUCTION AND CLIMATE CHANGE ADAPTATION

on the occasion of the

**5TH ANNUAL UNITED NATIONS DAY FOR SOUTH-SOUTH
COOPERATION AND THE LAUNCH OF THE GLOBAL SOUTH-SOUTH
DEVELOPMENT EXPO**

organized by the

UNITED NATION DEVELOPMENT PROGRAMME

**United Nations Headquarters, New York
17 December 2008**

Please check against delivery



ONE NATURE • ONE WORLD • OUR FUTURE
COP 9 MOP 4 Bonn Germany 2008



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Ladies and Gentlemen,

“For my generation, coming of age at the height of the Cold War, fear of nuclear winter seemed the leading existential threat on the horizon. But the danger posed by war to all humanity—and to our planet—is at least matched by climate change.”

Expressed a year and a half ago, this statement by Ban Ki-moon succinctly conveys the extreme historical gravity of the unfolding climate crisis. The dire consequences of global warming are both many and increasingly familiar: Arctic shrinkage and glacier retreat, rising sea levels, rapid changes in the seasonal timing and mechanics of ecosystems, greatly altered patterns of agriculture, expansion of tropical diseases, and a greater frequency of extreme weather-events. Of all of these consequences, extreme weather-events are amongst the most worrisome because of their unpredictability and magnitude, and because they have already begun to increase in number.

According to the United Nations Environment Programme (UNEP), since 1980 more than 10,000 extreme weather-events have led to the death of more than 500,000 people. Overall, the number of natural disasters linked to the climate has increased four-fold since 1960. By way of example, during the 1950s there were six major floods, which affected 7 million people, while in the 1990s there were 26, affecting the lives of 150 million people. Out of the 700 natural disasters recorded in 2002, 593 were weather-related. The overall number was a record number for natural disasters on our planet in a single year. 2002 was also the year with the second highest temperatures after those of 1998 since weather records started to be kept in 1861. On 27 December of that year, Paris recorded its highest winter temperature since 1882.

The statistics coming from many recent climate-related natural disasters are startling. An exceptional heat wave engulfed Europe in August 2003, and led in a few days to the death of 20,000 people. This was the most unprecedented health disaster since 1873, but by no means an isolated event.

Storm-related events are also increasing in frequency. In September 2003, Hurricane Isabel devastated the eastern seaboard of the United States of America killing 23 people, depriving 2.5 million Americans of electricity and causing billions of dollars in damage. Several days earlier, Typhoon Cicada had taken its toll on the coast of the Republic of South Korea, killing 124 people and causing damage amounting to 1.6 billion dollars. A year earlier, still another typhoon had struck the Republic of South Korea, causing 6.6 billion dollars worth of damage to property and leading to a significant drop in the economic growth rate. That year, Europe experienced its worst flooding in living memory. The heavy downpours in September 2002 in south-east France devastated a dozen towns and villages, led to the death of 23 people, and caused 1.2 billion euros of damage. These floods came in the aftermath of those in Germany, which had led to the death of 108 people and caused damage estimated at 18 billion euros.

And yet, extreme weather events driven by climate-change will not be visited equally upon the nations of the world. The countries engaged in South-South development and thus taking part in this meeting—the Group of 77 plus China—are going to be hit harder than others. From Santiago to Nairobi to Kuala Lumpur, the citizens of the developing world are bound together in a most unfortunate way by their heightened vulnerability to climate change.

Africa, for example, is a continent already under pressure from climate stresses and is therefore that much more vulnerable to further climate change. Floods and droughts sometimes occur in the same area within months of each other. One third of Africans already live in drought-prone areas and 220 million experience drought every year. Climate models suggest that such natural hazards are expected to become still more frequent and severe with global warming,

resulting in increased water scarcity, decreased agricultural productivity, and a decline in major subsistence crops such as sorghum, maize and groundnuts.

Extreme weather-events will also be a major issue for Asian countries. There is already evidence of an increase in frequency or intensity in Asia of heat waves, tropical cyclones, prolonged dry spells, intense rainfall, tornadoes, snow avalanches, thunderstorms and severe dust storms. The human costs of these hazards are immense. In 2006, southern and eastern China experienced major storms and flooding, while the rest of the country suffered intense heat waves and drought, killing more than 2700 people overall and causing US\$ 20 billion in damages. With further climate change, rainfall is expected to increase over most of Asia, especially during the summer monsoon, which could expand flood-prone areas in East, South and South-east Asia. In Central and South Asia, crop yields could fall by up to 30 per cent, dramatically increasing the risk of hunger. Global warming is also melting the Himalayan glaciers, increasing the short-term risks of flooding, erosion, mudslides and glacial-lake-outburst floods in Nepal, Bangladesh, Pakistan and north India during the wet season. In the longer term, the disappearance or shrinking of these glaciers may have serious impacts on the populations relying on the seven main rivers in Asia fed by melt-water from the Himalayas.

Latin American countries too are already suffering from climate-related changes in the frequency and intensity of extreme events. Torrential rains and the resulting floods, which can stem from tropical cyclones, have produced untold death and economic loss. In 1998, Hurricane Mitch alone caused 10,000 deaths and massive damage to infrastructure in Central America. In Andean countries, higher rates of economic recession correlate with greater flows of glacial melt-water, which cause erosion, flooding and mudslides in lowland areas. At the same time, as Andean glaciers disappear due to global warming, flows will subside, leading to extreme water shortages, reduced hydropower, greater risks of drought as well as of flooding, and serious environmental degradation.

Island nations are likewise highly vulnerable to extreme weather-events and are already feeling their impacts. Tropical storms and cyclones cause storm surges, coral bleaching, inundation of land, and coastal and soil erosion, resulting in severe damages to social, economic and cultural infrastructure. In the Pacific islands, cyclones accounted for 76 per cent of the reported disasters between 1950 and 2004, with the average damage costs per cyclone being US\$ 75.7 million in 2004 alone. In the Caribbean, the 2004 hurricane season caused some US\$ 2.2 billion of damage in the Bahamas, Grenada, Jamaica and the Dominican Republic. Without proper risk management and adaptation strategies, these damages will only increase as climate change intensifies.

Overall, then, not a single developing country trying to promote its well-being through South-South cooperation can afford to ignore the threat posed by climate change-driven natural disasters. This means that all such nations—in fact, every single person on the planet—should be deeply concerned by the following points: the causes and effects of climate change are both being exacerbated by the loss of biodiversity, and yet this loss is continuing at an unprecedented rate.

The link between biodiversity loss and climate change is well documented. Deforestation is currently estimated to be responsible for 20 per cent of annual human-induced CO₂ emissions, as forests account for as much as 80 per cent of the total above-ground terrestrial carbon. In addition, peatlands, which only cover 3 per cent of the world's terrestrial surface, store 30 per cent of all global soil carbon or the equivalent of 75 per cent of all atmospheric carbon. Hence, as forest and wetland loss continues, a much greater proportion of global carbon ends up in the atmosphere and not in terrestrial biomass. Likewise, intensive agricultural practices that destroy ground cover and increase soil erosion decrease the retention time of carbon in the soil. It has

been shown that sustainable land management techniques in agricultural areas such as integrated pest management, conservation tillage, intercropping, and the planting of cover crops increase carbon sequestration in the soil. When cover crops are used in combination with conservation tillage, soil carbon content can increase annually for a period of up to 50 years. The sustainable management of grazing land can provide similar benefits as they contain between 10 and 30 per cent of the world's soil carbon reserves.

The fact that biodiversity loss can worsen the effects of climate change is also well known, and is nowhere more obvious than when it comes to natural disasters. Mangroves and coral reefs are a prime example. When intact, they can absorb 70-90 per cent of the energy in wind-generated waves, thus protecting shorelines from storms and hurricanes. The benefits of preserving these natural barriers are very clearly seen in case-study from Viet Nam, a country where extreme weather events such as typhoons often cause considerable damage. Since 1994, the Viet Nam National Chapter of the Red Cross has been working with local communities to rehabilitate mangroves. Activities include the planting and protection of mangroves and upland trees, disaster preparedness training and general awareness-raising about the value of mangroves. Around 12,000 hectares of mangroves have been planted. Although these mitigation activities cost approximately US\$ 1.1 million, it has saved US\$ 7.3 million per year in dike maintenance. Moreover, during the devastating Typhoon Wukong in 2000, project areas remained unharmed while neighbouring provinces suffered severe casualties and property damage. Overall, the Viet Nam Red Cross estimates that about 7,750 families benefited from mangrove rehabilitation. The Vietnam experience was also borne out in Thailand during the catastrophic 2004 Asian tsunami. A study showed that communities protected by mangroves and other coastal plants escaped with little damage, while neighbouring villages without such protection were completely destroyed.

Biodiversity loss is also believed to have exacerbated the floods that ravaged Europe a few years ago and that I mentioned earlier. A lack of wetlands to absorb the overflow was at least part of the problem, as more than 80 per cent of all wetlands and floodplains in the Danube basin have been lost in the last 100 years. Indeed, restoration of forests in the watershed above Malaga, Spain, is believed to have ended flooding that had been recorded there at regular intervals over 500 years.

Biodiversity loss may also worsen the effects of climate change-driven drought and desertification. For example, in Bara, a drought-prone province in Western Sudan, cultivation of marginal lands, fuel wood gathering and overstocking of livestock have drastically depleted the vegetation. As a result, soil erosion, desertification and atmospheric dust have all intensified. Any further drying due to climate change could be potentially fatal for the region's inhabitants. However, beginning in 1992 and continuing through 2000, a group of 17 villages took part in a project funded by the Global Environment Facility (GEF) to rehabilitate overexploited and highly vulnerable rangelands. Activities included the improvement of rangeland with native vegetation, the stabilization of sand dunes with trees and grass, and the creation of 195 kilometres of tree windbreaks. In the end, 700 hectares of rangeland were rehabilitated, resulting in increased soil cover, reduced soil erosion, greater carbon sequestration, increased biodiversity, and generally healthier ecosystems. Overall, the activities allowed communities to strengthen their capacity to manage and preserve the ecosystem, while increasing their resilience to climate-related shocks such as drought.

Despite the demonstrated ability of biodiversity to both stabilize the climate and mitigate the effects of climate change, efforts to halt its loss are proceeding slowly. Forests once covered 47 per cent of the Earth's land surface, yet in the last 300 years global forest area has shrunk by

approximately 40 per cent. Forests have completely disappeared in 25 countries, and another 29 countries have lost more than 90 per cent of their forest cover. Each year about 13 million hectares of the world's forests are lost due to deforestation. Over the last 25 years, 3.6 million hectares of mangroves, about 20 percent of the total extent found in 1980, have disappeared worldwide. Since 1900, over half of wetlands worldwide have disappeared. Some 20 per cent of the world's coral reefs have been effectively destroyed by fishing, pollution, disease and coral bleaching, while approximately 24 per cent of the remaining reefs in the world are under imminent risk of collapse from human pressures.

Most disturbingly of all, climate change itself is accelerating these trends. Ecosystems already stressed by overuse, pollution and fragmentation have become less resilient and cannot handle the climate fluctuations they might otherwise have been able to absorb. As global warming continues and climate variability intensifies, we will pass a natural ceiling where even the few remaining completely healthy ecosystems on the globe will be severely affected.

Faced with all of these grim realities, South-South cooperation is an important way for the countries that will be hardest hit by climate change to share strategies for assessing and reducing the risks of the climate change. Five years ago, the General Assembly urged all relevant United Nations organizations and multilateral institutions to “intensify their efforts to effectively mainstream the use of South-South cooperation in the design, formulation and implementation of their regular programmes and to consider increasing allocations of human, technical and financial resources for supporting South-South cooperation initiatives”. Many developing nations currently lack the institutional and financial resources to face the severe challenges that lie ahead, which means that such cooperation will allow for the exchange of technologies—particularly low-cost ones—that are adapted to the unique circumstances of the South.

As a key step forward, in 2006 the importance of incorporating the many values of biodiversity into the process of South-South cooperation was explicitly recognized. A major initiative for integrating the three objectives of the Convention on Biological Diversity into South-South cooperation strategies was launched at our Secretariat in Montreal with the participation of the United Nations Development Programme (UNDP). These objectives are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. Biodiversity is a critical asset in the countries that are members of the Group of 77 – the most megadiverse countries are from the South, and so are most of the Parties to the Convention on Biological Diversity. Their citizens depend more directly on biodiversity for their means of living and quality of life than do those in developed nations. Needless to say, by both sustainably and effectively using their incredible wealth of biological resources, developing nations can go a long way toward preventing further climate change, avoiding a steep increase in the number of extreme weather-events they will suffer, and mitigating the effects of the natural hazards they will continue to face. They can go a long way toward preventing and alleviating poverty and increasing their standards of living.

Progress on incorporating biodiversity concerns into South-South development has been heartening. In May of this year, the Conference of the Parties to the Convention adopted a decision on South-South cooperation calling for the preparation of a multi year plan of action to be submitted to the tenth meeting of the Parties, to be held in October 2010 in Nagoya, Japan. This decision has four key components. First, it encourages developing country Parties to engage in South-South cooperation on the issue of biodiversity, complemented and supported by North-South cooperation, and to incorporate biodiversity concerns in regional and subregional cooperation agreements and associated activities. Second, it asks the Parties to establish

multi-stakeholder collaborative partnerships between Parties and other countries in order to address biodiversity concerns at various from levels, from local communities to the international stage. Third, it invites Parties and other Governments, regional and international organizations to support the organization of a South-South cooperation forum on biodiversity for development at the margins of the tenth meeting of the Conference of the Parties. And fourth, it invites them to support South-South cooperation by facilitating projects and programmes aimed at joint conservation and sustainable use of cross border ecosystems to further contribute towards halting biodiversity loss.

The past few months have seen other important developments on the biodiversity and development fronts. The G-77's Development Platform for the South was launched in Yamassoukro, Côte d'Ivoire, in June. The Platform acknowledges that biodiversity is under threat, with species disappearing at a rate only seen previously during catastrophic mass extinctions. It also recognizes the importance of the fair and equitable sharing of benefits from using genetic resources as well as the strong links between biodiversity and climate change.

In addition, in early November, under the leadership of Antigua and Barbuda, an expert meeting on a multi-year plan of action was convened jointly by the Secretariat of the Convention and the Secretariat of the Group of 77. The meeting adopted a road-map for the preparation and finalization of the multi-year plan of action on biodiversity for development. This road-map can be considered a tangible contribution of the biodiversity family to the celebration of the United Nations Day for South-South Cooperation. It is also a recognition of the importance of coordinating and supporting South-South and triangular cooperation on a global and UN-wide basis for achieving sustainable development.

In developing its South South initiative, the Secretariat has enjoyed the support and benefited from the unique experience of the UNDP South-South Cooperation Unit, and we look forward to their continued support on our common journey to Nagoya. The expected secondment in early next year of a UNDP liaison officer to the Secretariat of the Convention will enhance the partnership between our two institutions. I would also like to acknowledge the contribution of the High-Level Committee on South-South Cooperation. Ambassador Nassir Abdulaziz Al-Nasser, Permanent Representative of Qatar to the United Nations and President of the High-Level Committee on South-South Cooperation, came to our expert meeting in November and has agreed to be part of the steering committee for the multi-year plan of action.

Let me close with the words of Rajendra Pachauri, head of the Intergovernmental Panel on Climate Change. He said last year: "What we do in the next two to three years will determine our future. This is the defining moment." I shall echo his thoughts by urging us to build on the progress we have made in 2008. The degradation and disappearance of our biological resources, deepening poverty and hunger, and instabilities and natural disasters wrought by climate change—these are interdependent problems that need to be tackled in concert, and urgently. We are delivering plans of action—let us now put them into practice. For G-77 countries more than other nations, the immediate consequences of not doing so will be grave.

Thank you for your kind attention.