

Submission from the UNCCD on FCCC/CP/2005/L.2
“Reducing emissions from deforestation in developing countries: approaches to stimulate action”

(need to throw in FCCC/SBSTA/2004/INF.10 “Options for enhanced cooperation among the three Rio Conventions”, particularly options for cooperation on issues addressing climate change impacts, adaptation, mitigation, land degradation and the conservation and sustainable use of biodiversity.

The large surface area of drylands gives dryland carbon sequestration a global significance. The total dryland soil organic and inorganic carbon reserves comprise, respectively, 27% and 97% of the global soil organic and soil inorganic global carbon reserves.

The potential of dryland ecosystems to sequester carbon has been estimated to be up to 0.4–0.6 billion tons of carbon a year if eroded and degraded dryland soils were restored and their further degradation were arrested. Furthermore, through active ecosystem management, such as reclamation of saline soils and formation of secondary carbonates, carbon sequestration can be further enhanced. This will add sequestration of 0.5–1.3 billion tons of carbon a year; similar magnitudes of potential carbon sink capacity of dryland ecosystems have been estimated. This restoration and enhancement of dryland condition, if undertaken at a global scale, could have a major impact on the global climate change patterns.

The World Conservation Monitoring Center has estimated that 1,048,700 sq.km. of tropical dry forest remains distributed throughout the three tropical regions. Overall c. 97% of the remaining area of tropical dry forest is at risk from one or more of the different threats: climate change, habitat fragmentation, fire, human population density and conversion to cropland. Tropical dry forest should be accorded high conservation priority as they are the most threatened of all major tropical forest types.

The Millenium Ecosystem Assessment (2006) has noted that eighteen percent of the area of the dryland system is occupied by the forest and woodland system, though the probability of encountering forests in drylands decreases with their aridity. The Report also noted that silviculture and rain-fed horticulture are not very common in drylands and depend on labor-intensive construction and maintenance of runoff-harvesting structures. However, dryland silviculture and horticulture provide better soil protection than agriculture because tree canopies are denser and tree root system deeper and more extensive than those of agricultural crops and because trees continue to provide soil conservation after harvest, unlike agricultural crops, where very little is left to cover the soil after harvest. Dryland afforestation for firewood production is a livelihood that depends on the biological production service. Unlike grazing or cropping, afforestation provides a superb soil conservation service for an area greater than that occupied by the forest itself since flashfloods are not generated by dryland forests. Dryland afforestation will qualify as an alternative livelihood if it generates more income than a traditional dryland land use and, even better, if it can generate more income than non-dryland silviculture. Carbon sequestration by forests and their contribution to above- and belowground carbon reserves and the recent emergence of

“carbon trading” under the Kyoto Protocol may make the required difference. This is because most non-dryland ecosystems with good provision of the biological productivity service are already either cultivated or afforested. On the other hand, though the global drylands are less efficient than non-drylands in carbon sequestration, their potential for further carbon sequestration is high and has not yet been developed, while non-dryland capacity is already close to the maximum.

Regarding the distribution of tropical dry forest, the two most extensive contiguous areas that remain are both located in South America, one in north-eastern Brazil, and the other in south-eastern Bolivia, Paraguay and northern Argentina. Other notable concentrations of tropical dry forest occur within the Yucatan peninsula of Mexico, northern Venezuela and Colombia, and in Central Indochina (Thailand, Vietnam, Laos and Cambodia). In most other areas where dry forests occur, they tend to display a rather scattered or fragmented distribution, often over extensive areas. Diffuse concentrations of dry forest occur along the pacific coast of Mexico, eastern India and Sri Lanka, in the island chain east of Java, and in northern Australia. In Africa, tropical dry forests are distributed over an extensive geographical range, but nowhere form large continuous areas. The two main centres of distribution are located in western Ethiopia, southern Sudan and the Central African republic, and in Zambia, Zimbabwe and Mozambique. Scattered dry forests also remain in western Madagascar, and in West Africa (principally Mali).

The Viterbo “workshop on forests and forest ecosystems: promoting synergy in the implementation of the three Rio conventions” - organized by the UNCCD and CBD secretariats, in cooperation with the UNFCCC secretariat (UNCCD/COP..... April 2004) noted the global statistics on deforestation rates for indigenous forests, and the importance of employing new approaches in order to reverse these trends. Increasing interest was evident in managing forests as ecosystems through sustainable forest management, including by maintaining the environmental services (such as hydrological, soil stabilization, recreational, biodiversity, carbon sequestration services) provided by forests, and the promotion of market-based and policy tools to capture the value of these services, nationally and where applicable internationally. The economic potential for developing national and international markets and market transactions for such environmental services provided by forests was recognized.

Key components of forest landscape restoration are related to forests, sustainable forest management and forest ecosystems, namely forest functions, ecological processes, socio-economic value, land tenure, forest resilience and forest fragmentation. It was also recognized that the benefits of landscape restoration go beyond a specific site and affect a more extensive area of land. Additional priorities should be given to sustainable use of vulnerable areas where a synergistic approach is needed for combating soil erosion, preventing biodiversity losses and maintaining carbon stocks. Further work on collection, development and synthesis of traditional and scientific knowledge and its application to combating desertification, maintaining biodiversity and improving carbon stocks was strongly encouraged.

Questions related to additionality: If forests do occur in the relatively humid range of the drylands and seem well adapted to these dryland conditions, why is their distribution patchy and not contiguous? Do the dryland forest patches occur in patches of locally less arid conditions, or is the patchiness a result of human exploitation?

Answers to these questions may be critical for evaluating the use of the carbon sequestration service of these two dryland subtypes, which constitute nearly a quarter of Earth's surface area.

In order to assess tropical dry forest conservation status and emissions, information is required on its distribution pattern, and the rate of change in forest extent. Therefore the UNCCD supports the technical issues related to additionality in which the establishment of national deforestation baseline rates (noting major forest types) are determined.

Knowledge gaps in terms of additionality, leakage, permanence and monitoring of the dry tropical forest also need to be filled by collecting information on credible rates of the extent and severity of soil degradation at different spatial scales; biotic and soil carbon pools and fluxes; the impact of land use changes and desertification on the carbon sequestration dynamics; and the cost-benefit ratio of soil improvement and carbon sequestration practices for small landholders and subsistence farmers in dryland ecosystems.

The foregoing would be in conformity with the "Options Paper" for enhanced cooperation among the three Rio Conventions, which was jointly prepared by the three Rio Conventions, and endorsed by the Joint Liaison Group as a good basis for considering relevant options for enhancing cooperation.