

An introduction to the United Nations Convention to Combat Desertification

The Convention offers new hope in the struggle against desertification. Over the past two decades, the problem of land degradation in dryland regions has continued to worsen. The Convention promotes a fresh new approach to managing dryland ecosystems and - just as important - to managing development aid flows.

Desertification is caused by climate variability and human activities. In the past, drylands recovered easily following long droughts and dry periods. Under modern conditions, however, they tend to lose their biological and economic productivity quickly unless they are sustainably managed. Today, drylands on every continent are being degraded by overcultivation, overgrazing, deforestation, and poor irrigation practices. Such overexploitation is generally caused by economic and social pressures, ignorance, war, and drought. (See fact sheet 2.)

Desertification undermines the land's productivity and contributes to poverty. Prime resources - fertile topsoil, vegetation cover, and healthy crops - are the first victims of desertification. The people themselves begin to suffer when food and water supplies become threatened. In the worst cases, they endure famine, mass migration, and colossal economic losses. Over 250 million people are directly affected by desertification, and some one thousand million (one billion) are at risk. (See fact sheet 3.)

The Convention to Combat Desertification will be implemented through action programmes. These programmes are the core of the Convention. At the national level, they will address the underlying causes of desertification and drought and identify measures of preventing and reversing it. National programmes will be complemented by subregional and regional programmes, particularly when transboundary resources such as lakes and rivers are involved. Action programmes are detailed in the five regional implementation annexes to the Convention - Africa, Asia, Latin America and the Caribbean, the Northern Mediterranean, and Central and Eastern Europe. (See fact sheet 4.)

The Convention promises to reshape the international aid process dramatically. It seeks to engage donor nations and agencies and recipient countries in a new partnership. The respective roles of donors and recipients will be worked out in partnership agreements developed through a consultative process. The aim is to ensure that funding programmes are better coordinated, that funding is based on the needs of the affected countries, that donors can be sure their funds are well spent, and that recipients obtain the maximum benefit from the sums available. (See fact sheet 5.)

Another radical departure is the strong emphasis on a "bottom-up" approach with strong local participation in decision-making. Traditionally, local communities have been relatively passive participants in development projects. Now the Convention puts them on an equal footing with other actors in the development process. Communities and their leaders, as well as non-governmental organizations, experts, and government officials, will work closely together to formulate action programmes. For this innovative and complicated process to work, awareness campaigns may be needed to inform people about the new opportunities presented by this Convention. (See fact sheet 6.)

Science and technology are vital tools in the fight against desertification. The Committee on Science and Technology, established under the Convention, promotes technological and scientific cooperation among national, subregional and regional institutions through data collection, analysis and review as well as the provision of up-to-date scientific knowledge and advice. Land degradation can be minimized by means of both new and traditional technologies, ranging from satellite monitoring to the terracing of steep hill slopes. Science and technology must respond to people's real needs, and the Convention encourages researchers around the world to combine their talents for this purpose. (See fact sheet 7.)

Financial resources need to be channeled and invested more efficiently.

Most funding is raised domestically by the affected countries, but bilateral assistance programmes and international agencies also provide large sums. The Convention has established a Global Mechanism to promote the mobilization of financial resources. In addition, the Global Environment Facility has been designated as a financial mechanism to the Convention. To this effect, and as means to enhance the implementation of the Convention, the GEF adopted a new operational Programme (OP-15) exclusively designed to fund activities related to land degradation. Innovative funding sources, including debt swaps and private-sector financing, will also be encouraged. . (See fact sheet 8.)

The Convention has established a number of institutions and procedures for guiding international action. The Convention entered into force on 26 December 1996, three months after the fiftieth country ratified it. As at September 2005, 190 countries and the European Union had ratified or acceded to it. The supreme body of the Convention is the Conference of the Parties (COP), which comprises ratifying governments and regional economic integration organizations. It is assisted in its tasks by two subsidiary bodies, the Committee on Science and Technology and the Committee for the Review of the Implementation of the Convention. The COP held seven sessions up to the year 2005, the first of which was held in Rome in October 1997. The COP will continue to meet biennially in the future. (See fact sheet 9.)

Desertification is primarily a problem of sustainable development. It is a matter of addressing poverty and human well-being, as well as preserving the environment. Social and economic issues, including food security, migration, and political stability, are closely linked to land degradation and drought. So are such environmental topics as climate change, loss of biological diversity, and freshwater supplies. The Convention emphasizes the need to coordinate research efforts and action programmes for combating desertification with these related concerns. (See fact sheet 10.)

The causes of desertification

Desertification is the degradation of drylands. It involves the loss of biological or economic productivity and complexity in croplands, pastures, and woodlands. It is due mainly to climate variability and unsustainable human activities. The most commonly cited forms of unsustainable land use are overcultivation, overgrazing, deforestation, and poor irrigation practices. Seventy percent of the world's drylands (excluding hyper-arid deserts), or some 3,600 million hectares, are degraded. While drought is often associated with land degradation, it is a natural phenomenon that occurs when rainfall is significantly below normal recorded levels for a long time.

Drylands respond quickly to climatic fluctuations. By definition, drylands have limited freshwater supplies. Precipitation can vary greatly during the year. In addition to this seasonal variability, wide fluctuations occur over years and decades, frequently leading to drought. Over the ages, dryland ecology has become attuned to this variability in moisture; plants and animals can respond to it rapidly. For example, satellite imagery has shown that the vegetation boundary south of the Sahara can move by up to 200 km when a wet year is followed by a dry one, and vice versa.

People must also adjust to these natural fluctuations. The biological and economic resources of drylands, notably soil quality, freshwater supplies, vegetation, and crops, are easily damaged. People have learned to protect these resources with age-old strategies such as shifting agriculture and nomadic herding. However, in recent decades these strategies have become less practical due to changing economic and political circumstances, population growth, and a trend towards more settled communities. When land managers cannot or do not respond flexibly to climate variations, desertification is the result.

The relatively low priority given to environmental protection often leads to poor land management decisions. The overuse of land may result from specific economic conditions or from inappropriate land laws or customs. In many cases, unregulated access to land resources may lead some individuals to maximize their own gains by overexploiting the land at the expense of the community as a whole. Poor people, particularly poor women, often lack access to the best land, depending instead on the most fragile areas and resources. Their poverty may give them little alternative but to extract what they can from the scarce resources available to them, even though this degrades the land.

International economic forces can encourage people to overexploit their land. International trade patterns can lead to the short-term exploitation of local resources for export, leaving little profit at the community level for managing or restoring the land. Similarly, the development of an economy based on cash crops, or the imposition of taxes, can distort local markets and promote overexploitation of the land.

Ignorance, errors, and natural and man-made disasters can also contribute to land degradation. Ignorance of the natural environment played an important role in the US during the infamous Dust Bowl of the 1930s; among other errors, during a time of drought Midwestern farmers used ploughs better suited for the more temperate latitudes of Western Europe. In recent decades, similar mistakes in the choice of policies or technologies have led to

land degradation in many countries, both developed and developing. Disasters such as wars and national emergencies also destroy productive land by displacing its managers or causing heavy concentrations of migrants to overburden an area. Natural disasters such as floods and droughts can have a similar effect.

What role do increasing populations and population densities play? It is tempting to conclude that an expanding human population is the ultimate driving force behind desertification. More people in an area inevitably exert a greater pressure on that area's resources; sometimes this pressure is indirect, as when growing urban populations place demands on food production in uncrowded rural areas. But the causes of desertification are complex, and the relationship between two variables such as population and desertification is not clear-cut. For example, a decline in population can result in desertification since there may no longer be enough people to manage the land adequately. Many hillside terraces in Yemen have fallen into disrepair with the exodus of labour to neighbouring oil-rich countries. Examples can also be cited of areas that support large concentrations of people without much degradation, such as around the city of Kano in Nigeria.

The consequences of desertification

Desertification reduces the land's resilience to natural climate variability.

Soil, vegetation, freshwater supplies, and other dryland resources tend to be resilient. They can eventually recover from climatic disturbances, such as drought, and even from human-induced impacts, such as overgrazing. When land is degraded, however, this resilience is greatly weakened. This has both physical and socio-economic consequences.

Soil becomes less productive. Exposed and eroded topsoil can be blown away by the wind or washed away by rainstorms. The soil's physical structure and bio-chemical composition can change for the worse. Gullies and cracks may appear and vital nutrients can be removed by wind or water. If the water table rises due to inadequate drainage and poor irrigation practices, the soil can become waterlogged, and salts may build up. When soil is trampled and compacted by cattle, it can lose its ability to support plant growth and to hold moisture, resulting in increased evaporation and surface run-off.

Vegetation becomes damaged. The loss of vegetation cover is both a consequence and a cause of land degradation. Loose soil can sandblast plants, bury them, or leave their roots dangerously exposed. When pastures are overgrazed by too many animals, or by inappropriate types, edible plant species may be lost, allowing inedible species to invade.

Some of the consequences are borne by people living outside the immediately affected area. Degraded land may cause downstream flooding, reduced water quality, sedimentation in rivers and lakes, and siltation of reservoirs and navigation channels. It can also cause dust storms and air pollution, resulting in damaged machinery, reduced visibility, unwanted sediment deposits, and mental stress. Wind-blown dust can also worsen health problems, including eye infections, respiratory illnesses, and allergies. Dramatic increases in the frequency of dust storms were recorded during the Dust Bowl years in the US, in the Virgin Lands scheme area in the former USSR in the 1950s, and in the African Sahel during the 1970s and 1980s.

Food production is undermined. Desertification is considered a major global environmental issue largely because of the link between dryland degradation and food production. A nutritionally adequate diet for the world's growing population implies tripling food production over the next 50 years. This will be difficult to achieve even under favourable circumstances. If desertification is not stopped and reversed, food yields in many affected areas will decline. Malnutrition, starvation, and ultimately famine may result. The relationship between soil degradation and crop yields, however, is seldom straightforward. Productivity is affected by many different factors, such as the weather, disease and pests, farming methods, and external markets and other economic forces.

Desertification contributes to famine. Famine typically occurs in areas that also suffer from poverty, civil unrest, or war. Drought and land degradation often help to trigger a crisis, which is then made worse by poor food distribution and the inability to buy what is available.

Desertification has enormous social costs. There is now increased awareness of the relationship between desertification, movements of people, and conflicts. In Africa, many people have become internally displaced or forced to migrate to other countries due to war, drought, and dryland degradation. The environmental resources in and around the cities and camps where these people settle come under severe pressure. Difficult living conditions and the loss of cultural identity further undermine social stability.

Desertification is a huge drain on economic resources. There is little detailed data on the economic losses resulting from desertification, although an unpublished World Bank study suggested that the depletion of natural resources in one Sahelian country was equivalent to 20% of its annual Gross Domestic Product (GDP). At the global level, it is estimated that the annual income foregone in the areas immediately affected by desertification amounts to approximately US\$ 42 billion each year. The indirect economic and social costs suffered outside the affected areas, including the influx of “environmental refugees” and losses to national food production, may be much greater.

Action programmes for combating desertification

The Convention to Combat Desertification is being implemented through national action programmes (NAP). Developed country Parties and affected country Parties are expected to consult on their respective roles in supporting these programmes, which can result in a more holistic, integrated and participatory management of natural resources in drylands ecosystems. Once significant effort has been made to design a framework programme, international solidarity might facilitate the launching of specific projects and activities under the agreed policies, in an effective manner and without creating excessive transactional burden. Because programmes need to be adapted to particular regional circumstances, most of the specific requirements are described in the five regional implementation annexes for Africa, Asia, Latin America and the Caribbean, the northern Mediterranean and Central and Eastern Europe. As at August 2005, 77 National Action Programmes (NAPs) had been prepared and adopted. These instruments are considered to be core references for an ongoing process of planning for poverty reduction and the sustainable development of drylands.

Efforts to combat desertification should be fully integrated into other development programme frameworks. Reversing land degradation and alleviating poverty go hand in hand. Both involve improving food security, educating and training people, strengthening the capacity of local communities, and mobilizing non-governmental organizations. Similarly, because desertification affects and is affected by environmental concerns such as loss of biological diversity and climate change, NAPs need to have a great potential to promote synergies with other programmes dealing with such issues. However, improved data at the country level and stronger recognition of the NAPs have yet to manifest this potential fully through concrete initiatives. Parties have suggested the holding of national workshops involving the three conventions' focal points in order to facilitate further the implementation of joint work programmes.

Programmes outline long-term strategies and are formulated with the active participation of local communities. These are essential for providing ownership and continuity for long-term programming. The participatory process enables governments to coordinate and administer their resources more effectively while addressing the underlying socio-economic causes of desertification. These approaches pay particular attention to preventive measures and encourage a sense of commitment to sustainable practices by the very people who most depend upon the land. The programmes should be sufficiently flexible to accommodate new initiatives and local adaptations as circumstances change. In many instances, the strengthening of the capacities of key actors at the local level has proved successful in identifying and addressing challenges linked to decision making for natural resources management. The lack of a strong civil society presence in other affected states, however, continues to be a drawback in ensuring people's participation in the mainstream policy formulation and implementation process.

NAPs also specify the practical steps and measures to be taken as well as the commitments made by national governments to provide an "enabling environment". Specific measures to improve the economic environment could include creating financial instruments suited to local needs or the introduction of drought-resistant crops. Other measures could include promoting research activities, drought contingency plans, and improved early warning systems. National governments, for their part, can make commitments to remove obstacles and provide support by enacting new laws or strengthening existing legislation and

adopting policies that encourage sustainable development, such as the replacement of fuelwood by other energy sources. Part of the national budget must be clearly earmarked for efforts to combat desertification and drought according to national conditions and capabilities, but the NAPs are also expected to mobilize substantial financial resources from external sources. Lack of predictable programme resources and funding has slowed and impeded the implementation of NAPs. As Parties are now moving from the phase of programme preparation to that of implementation, the establishment of a country-driven mechanism to mobilize international support to the NAP in affected country Parties is urgently called for.

Subregional and regional action programmes (SRAPs and RAPs) can help to harmonize and strengthen national programmes.

These are designed through consultations among the affected countries of each region (such as Africa) and sub-region (such as West Africa). In addition to boosting the efficiency of national programmes, SRAPs and RAPs can promote joint programmes for the sustainable management of shared rivers and other cross-boundary ecosystems. The thematic programme networks which often constitute the main elements of RAPs generate spin-off effects on activities taking place at the national level, such as water management, agroforestry and monitoring, and forge each country's scientific and technical capacities. They may help in disseminating the knowledge of appropriate technologies and good practices. As at August 2005, 9 subregional and 3 regional action programmes had been launched.

A comprehensive assessment conducted by the Parties in 2000 and 2001 emphasized the possibility of duplicating best practices and successes.

Successful programme activities and outcomes identified were, inter alia, contribution to a more integrated approach linking national development frameworks and drylands conservation, the strengthening of relationships between governments and local communities, especially in larger countries, the decentralized involvement of stakeholders and natural resources end users in the development process for a variety of programmes beyond the Convention, aided by consultative mechanisms at the regional and local levels, the establishment of national information systems on desertification to enhance information flow between all parties involved, and private entrepreneurship, social mobilization and the application of appropriate technologies such as drip irrigation, soil conditioning, hydroponic crop production and ecotourism projects.

The Parties identified the integration of sustainable development policies into economic policies as a challenge to be overcome.

They highlighted the urgent need for of inter-ministerial cooperation and for the mainstreaming of action programmes into development strategies in order to address the problem in a comprehensive manner and to avoid duplication. Given that the NAPs cut across many development sectors such as agriculture, forestry and water management, the NAPs have, at times, encouraged inter-ministerial cooperation and focused attention on inappropriate land tenure or certain trade practices not conducive to sustainable land use. Furthermore, Parties called for the insertion of Convention-related measures into bilateral and multilateral negotiations.

Relevant parts of the Convention: Articles 4, 5, 8, 9, 10, and 11, and Regional Implementation Annex for Africa Articles 4, 8, and 9

Partnership arrangements between donors and affected countries

The Convention to Combat Desertification aims to facilitate a long-term partnership for the sustainable development of vulnerable drylands ecosystem, and, to this effect, to improve the channelling and investment of official development aid. In an era of a downward trend in financing for development, particularly with regard to resources allocated to rural development, the Convention submits that its consensus approach will enhance policy coherence and a more effective delivery of development aid. Developed country Parties are invited to make full use of this multilateral instrument whose potential can only be realised with their active involvement. Affected country Parties will continue to review and enhance the regime of governance of natural resources in order to get maximum benefit from the limited assistance available.

The Convention builds upon the lessons of the past and expresses an international consensus for an integrated framework of action. Over the years, a great deal of insight has been gained into how to improve the process of development aid aimed at the more marginal ecosystems and lower income groups. For example, it is generally agreed that many past aid efforts suffered because they were “supply driven” by the financing agency, handled top-down by planners, or delivered without adequate coordination at all levels. These insights are recognized in the Convention.

Partnership agreements are an essential requirement for the implementation of the Convention. A vital part of the Regional Implementation Annex for Africa, these agreements spell out explicitly the role of each partner, including donor agencies and governments, recipient governments and non-governmental organizations (NGOs), in the implementation of the Convention in a given country. This should help to harmonize efforts and maximize the impact of assistance. Partnership agreements should be part of, or associated with, national action programmes. They could be used for many different purposes, such as mobilizing financial resources, reorienting assistance mechanisms to fit the Convention’s approach, making inventories of funding sources, or developing new models for technological cooperation. Similar calls for coordination mechanisms are contained in all regional implementation annexes.

The consultative process aiming at the conclusion of partnership agreements is a defining moment in the implementation process for the affected country. Under the Convention, the consultations for concluding partnership agreements are initiated and managed by the recipient country in order to move from programme planning to operations. The government invites its partners to join a coordinating body which would act as a forum for consultations. It ensures the participation of policy makers from various branches of the government, including ministries and departments responsible for finance and planning, as well as community leaders, members of non-governmental organizations, and others responsible for the resulting activities. Participants in these partnership forums work together to evaluate past efforts, identify the country’s needs, and set priorities and responses, thus maximizing options for programme coherence and synergies. The participatory approach involving the inclusion of local communities and collectivities, would strengthen a national consensus and respond to the policy objectives of international partners who favor a more direct transfer of resources to natural resources end users.

The mechanism to link up the recipient country with international partners is thus at the core of the implementation dynamics. International partners would include bilateral aid agencies, regional development banks, and other international agencies. These partners would need to agree on a format, round table or otherwise, to suit national circumstances on a revolving basis, and to pay due attention to monitoring their commitments. The affected country Party would also wish to integrate combating desertification into national level poverty reduction strategies, and to present its case more systematically in bilateral negotiations, with donor partners.

The developed country Parties recognize on the whole the need to mainstream and coordinate their response. The donor partners must ensure that implementation of the UNCCD deserves due attention in their respective development policy approaches, and that it is reflected in their cooperation with the developing country partners. Their support must be channeled through a clearly identified mechanism for the Convention's implementation in order to ensure predictability of resources at the national and regional levels. The donor partners, particularly developed country governments, could also develop a consultation process among themselves to structure their dialogue with recipient governments. They may wish to identify bilateral chefs de file to coordinate their activities to combat desertification. This would help them to minimize overlaps and gaps, and to evaluate and respond to requests for assistance.

Non-governmental organizations are granted an unprecedented role in this process. NGOs tend to be well-organized, close to the community level, and able to draw on a pool of skilled and experienced people. The Convention recognizes these strengths and makes specific provisions for NGOs to become active partners in these partnership arrangements.

The need for a breakthrough in mobilizing predictable financial resources. Partnership arrangements have been launched in only few countries and have not materialized in most others, because of coordination difficulties between the recipient national focal points and the relevant government bodies responsible for the allocation of development aid as well as a lack of past experience in such arrangements. More awareness raising and commitment among donor countries and a country-driven consultative process have been pointed out by Parties as being indispensable for a breakthrough in mobilizing substantial and predictable financial resources.

Relevant parts of the Convention: Articles 10 and 14, plus Regional Implementation Annex for Africa Articles 6, 8, 9, 18, and 19.

Participatory development: A bottom-up approach to combating desertification

What role do local communities have under the Convention to Combat Desertification? Traditional development planning has too often been “top-down”. Outside experts start the process by defining objectives, activities, and expected outputs. Sometimes they visit the area to consult local authorities, inform them of the plan, and invite the community to help in executing projects. The Convention intends to turn this approach upside down. The spirit and letter of the Convention reflect the philosophy of participatory development. Action programmes to combat desertification are to originate at the local level and to be based on genuine local participation. Shared ownership of planned initiatives is a key condition for their sustainability.

Why is local participation in project planning so important? Projects must survive once foreign experts withdraw! Over the past two decades, programmes designed with little reference to the perceptions and capacities of local people have often failed. Outsiders cannot necessarily identify local needs and priorities or work out how best to meet them. Local communities have valuable experience and a special understanding of their own environment. When the responsibility for natural resource management is taken away from them, their use of land and other natural resources can become highly inefficient. The result is often land degradation. Participatory development recognizes the rights of local communities over their resources. They have a greater stake than anyone else in improving agricultural productivity while ensuring the long-term ecological balance of their fragile lands. In addition, local participation in planning and decision-making is essential for building local capacity.

Who should participate? Those most directly involved in the management, use and benefits of a particular resource must be active participants. In the case of desertification, small farmers (both men and women), pastoralists, nomads and other local land users are clearly vital to the process, as they have the most intimate contact with the land. Local leaders – village elders, traditional chiefs, representatives of community groups – as well as local authorities (regional, district and municipal officials) are also essential for mobilizing action. Technical experts, researchers, non-governmental organizations (NGOs) and voluntary associations are called on to bring skills and expertise in response to locally perceived challenges.

When should local participation start and how should the process be initiated? At the very inception of a development initiative, to begin with, the objectives and planned activities should be identified through a participatory process which includes the local level. Once a programme has started, the participants need to make regular reviews of progress made and obstacles encountered. When each phase is completed, a consultative mechanism should help them all to be involved in evaluating its outcome and deciding on the next steps. NGOs, community-based organizations (CBOs) and women’s and youth organizations have a key role to play here. It may also be necessary for the central government to delegate more decision-making authority and to share key aspects of the sustainable governance of natural resources with decentralized authorities closer to the local grass-roots level.

How can participation be strengthened? The participatory process is time-consuming and labour-intensive. Many affected Party states need a stronger civil society presence. There are no short cuts. Awareness campaigns are needed, to educate the public about the Convention and about national action programmes. Agricultural extension services and NGOs can help to build up the community's capacity for "participatory programming". Local decision-making procedures may have to be adapted and strengthened. The community has to go through a long learning and confidence-building process in order to take full advantage of the new resources it now receives and manages directly. Due attention is also paid to gender issues and the involvement of the more marginalized social groups.

How is local input used at the regional and national levels? At the local level, discussions are likely to take place in informal groups as well as in organized meetings. The results need to be carried forward to the provincial level to ensure inter-village cooperation and coordinated management of the regional environment. At the national level, all of this input is translated into a national action programme. In addition, the national government needs to respond to local aspirations by providing an "enabling environment", including a legislative and macro policy framework conducive to drylands development, public infrastructure and technical assistance. It also serves as the central point for contact with foreign aid providers. Ideally, through the iterative NAP process, information and ideas flow back and forth continuously among the various levels.

What are the specific programme activities where input from the stakeholders is valued?

In the formulation and implementation process of the national action programmes, the focal points promote a bottom-up approach inviting local stakeholders to submit their input. The involvement of local stakeholders is also encouraged for the workshops and forums that are being organized. These facilitate the formulation of interdisciplinary field projects, the exploration of linkages with other multilateral conventions and sustainable development policies, as well as the establishment of partnership arrangements for the NAP implementation.

Positive results and obstacles. The strengthening of capacities for key actors at the local level proved successful in identifying and addressing challenges linked to sustainable development. The bottom-up approach of the Convention helped in strengthening relationships between governments and local communities, particularly in larger countries. It also favored the decentralized involvement of stakeholders and natural resources end users in the development process. The lack of a strong civil society presence in a number of affected states, or, in certain cases, the troubled state of public security, has been a drawback to ensuring people's participation in the mainstream policy and decision-making process. Greater awareness raising is necessary, in order to encourage the further participation of NGOs, CBOs and women's and youth organizations.

Relevant parts of the Convention: Articles 3, 5, 9 and 10, plus Regional Implementation Annex for Africa Articles 6 and 9.

The role of science and technology

The Convention to Combat Desertification has established a Committee on Science and Technology (CST). Composed of government representatives, the CST provides advice to the Conference of the Parties (COP) on scientific and technological matters relevant to combating desertification and mitigating the effects of drought. It meets in conjunction with the ordinary sessions of the COP, and its Bureau is responsible for follow-up between COP sessions.

Consistent with the provisions of the Convention, particularly Articles 16, 18 and 24, the functions of the CST are as follows. It provides advice to the COP on technological and scientific matters, and collects, analyses and reviews relevant data. In addition, it promotes cooperation in the field of combating desertification and mitigating the effects of drought through appropriate subregional, regional and national institutions, and in particular by its activities in research and development, which contribute to increased knowledge of the processes leading to desertification and drought as well as their impact. It also contributes to distinguishing causal factors, both natural and human, with a view to combating desertification and achieving improved productivity as well as the sustainable use and management of resources.

The Convention promotes international cooperation in scientific research and observation. The CST serves as a liaison between the COP and the scientific community by seeking the cooperation of, and utilizing the services and information provided by, competent bodies or agencies - national, international and non-governmental. The CST keeps itself informed of the activities of the scientific advisory bodies of the Convention and coordinates the activities of the COP in order to avoid duplication and optimize efficiency.

New technologies and know-how should be developed, transferred to affected countries, and adapted to local circumstances. Modern communications, satellite imagery, and genetic engineering are only a few examples of modern tools that can help in combating desertification. Better weather forecasts and alerts can help to maintain or increase the land's productivity while improving food security and local living conditions. So too can new plant and animal varieties that are resistant to pests, diseases, and other dryland stresses. Photovoltaic cells and wind energy may reduce the consumption of scarce fuelwood and thus deforestation. For all these reasons, the Convention commits Parties to promoting technological cooperation. It calls for the promotion and financing of the transfer, acquisition, adaptation, and development of technologies that help to combat desertification or cope with its effects. These technologies should also be environmentally sound, economically viable, and socially acceptable.

Many related international organizations and the CST have identified traditional knowledge and know-how as important means of combating desertification and mitigating the effects of drought. People have been coping with the degradation of land and other natural resources since the advent of agriculture thousands of years ago. Many local populations have developed techniques for managing soil and water, domesticating plants and animals, and even for forecasting the weather. Examples include the terracing of steep slopes in the Andes and Himalayas and the use of irrigation systems around the world since prehistoric times. Many of these traditional technologies are still in use and have proved their effectiveness over centuries. Too often, however, changes in economic, ecological, or cultural

conditions have led people to abandon techniques that could still be valuable today. The Convention states, therefore, that traditional and local technologies and know-how should be protected. Inventories should be made of such technologies and information about them widely disseminated. Local populations should benefit directly from any commercial use of their techniques.

The COP will draw scientific and technology researchers into a global network to support the Convention. Under the leadership of the COP, the CST has surveyed and identified existing networks, institutions, agencies, and other bodies working on issues relevant to desertification, and has established a database based on their responses. It will evaluate the principal potential units in certain regions and subregions through a pilot in-depth survey, and then replicate it in other regions in order to recommend to the COP ways and means of facilitating and strengthening networking of the units at the local, national and other levels, with a view to promoting a global research network committed to supporting the Convention. Scientists worldwide will be encouraged to contribute their knowledge and research results to this international effort.

Capacity-building, education and training are pivotal if those people in developing countries who are affected by desertification are to combat it themselves. Developing countries often suffer from a scarcity of domestic skills, expertise, libraries, and research centres. Many also need improved hydrological and meteorological services. The Convention encourages developed countries to support capacity-building efforts, which will enable developing countries to combat desertification more effectively through science and technology.

In order to improve the efficiency and effectiveness of the work of the CST, the COP decided to establish a Group of Experts (GoE). This Group of Experts plays an important institutional role, providing the CST with information on the current knowledge, the extent and the impact, the possible scenarios and the policy implications on various themes assigned in its work programme. The results of the work performed by the GoE are widely recognized and include dissemination of its results on ongoing activities (benchmarks and indicators, traditional knowledge, early warning systems). The programme of work of the GoE, as well as its mandate, is pluri-annual in nature, for a maximum of four years. The GoE is composed of 25 members selected by the COP (decision 17/COP5 Annex). The programme of work emphasizes applied research, synthesis work and networking around concrete implementation issues (decision 15/COP6 Annex).

Relevant parts of the Convention: Articles 8, 16, 17, 24 and 25

Financing action to combat desertification

How much money is needed to combat desertification? It is difficult to estimate just how much money will be needed to achieve the objective of the Convention to Combat Desertification. The cost will depend largely on the contents of the National Action Programmes (NAPs) through which affected countries will seek to implement the Convention. The United Nations Environment Programme (UNEP) estimates that an effective 20-year global effort would cost US\$ 10-22 billion per year. To put this estimate in perspective, UNEP also calculates that desertification currently causes affected countries to forego some US\$ 42 billion in income per year.

What are the major sources of funding? The largest source of funds is the affected countries themselves. The largest external source for Africa is bilateral official development assistance provided on grant or concessional terms. Multilateral bank loans made on a commercial basis are the major external source of funds for Latin America and Asia. Foreign private investment is also important in these regions, although it has been largely untapped in Africa. The World Bank, the International Fund for Agricultural Development (IFAD), regional development banks, and other international financial institutions also play a prominent role, as do United Nations organizations and agencies. Non-governmental organizations (NGOs) are another significant source, particularly in Africa. Since the adoption of Land degradation as a GEF Focal area and ensuing Operational Programme on sustainable land management (OP.15), the implementation of the Convention can rely on predictable financial resources never availed before. The GEF is therefore one of major sources of funding.

What financial commitments do the Parties make? Affected developing countries are to allocate adequate resources, given their circumstances and capabilities. Developed countries are to provide “substantial financial resources and other forms of support”, including grants and concessional loans, through both bilateral and multilateral channels. They also pledge to seek new and additional funding through the Global Environment Facility (GEF) for activities to combat desertification under its new operational programme 15. In addition to funding land degradation projects, this programme also envisages to fund the elaboration of action programmes and national reports under the Convention, through capacity building components. Action programmes have proven to be costly. Furthermore, developed countries will encourage funding from private sector and non-governmental sources, including debt swaps and other innovative means of reducing external debt burdens. Over and above these commitments, any Party can voluntarily provide financial resources to affected developing countries.

How will the flow of funding from donors to affected countries be coordinated in order to ensure maximum effectiveness? At its first session in October 1997, the Conference of the Parties identified IFAD as the Host Institution of the Global Mechanism; its role is to promote actions leading to the mobilization and the channelling of substantial resources to affected developing countries, including the transfer of technology. It is expected that with the new GEF focal area, the role of the Global Mechanism will be further strengthened as a financial broker, particularly regarding the co-funding resources required for GEF intervention

How will funding be channeled to the projects and activities where it is most needed? The Convention stresses that funds must be raised and then allocated using an integrated “bottom-up” approach involving the full participation of local communities. The Regional Implementation Annex for Africa states that recipient governments will establish policies and procedures for channelling resources more effectively to groups at the local level. They

will enable non-governmental organizations to assume an unprecedented role in ensuring that local communities obtain the external resources they need to carry out their own programmes. Governments will also provide a macroeconomic framework conducive to mobilizing financial resources and will ensure that the financial package is fully integrated into their overall national development programme. For its part, the COP will promote national desertification funds and other mechanisms for directing funds to the local level.

Relevant parts of the Convention: Articles 5, 6, 13, 20 and 21, plus Regional Implementation Annexes for Africa (Article 15), Latin America and the Caribbean (Article 6), Asia (Article 7), and Central and Eastern Europe (Article 7)

Institutions and procedures of the Convention

The Convention to Combat Desertification was negotiated under the auspices of the United Nations. In June 1992, the United Nations Conference on Environment and Development (UNCED), also known as the Rio Earth Summit) recommended that the United Nations General Assembly establish an Intergovernmental Negotiating Committee for a Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification (INCD) to prepare a convention to combat desertification in those countries experiencing serious drought and/or desertification, particularly in Africa. The Committee held five preparatory sessions before adopting the Convention on 17 June 1994 in Paris.

The Convention entered into force on 26 December 1996, 90 days after it had been ratified by 50 countries. By August 2005 there were 191 Parties to the Convention. After a government's representatives have signed the Convention, the designated legislative body ratifies. The government then sends its instrument of ratification to the United Nations in New York, which acts as the Depository. Countries which have ratified or acceded to the Convention become Parties and are legally responsible for carrying out their treaty commitments 90 days after having deposited their instrument of ratification or accession.

While only national governments which ratify/accede to the Convention can become Parties to the UNCCD, other bodies and organizations can also participate in the Conference of the Parties (COP) as observers. International conventions are legal agreements among sovereign countries. However, this Convention makes special provision for national and international agencies and qualified NGOs to attend the meetings of the COP and to contribute to its work. NGOs have not only played a prominent role in the Convention process, but they continue to raise public awareness and to lobby parliamentarians for effective implementation of the Convention. Such international and regional organizations provide crucial information, expertise, contacts, and research and managerial capabilities.

The Conference of the Parties periodically reviews the implementation of the Convention. The COP was established by the Convention as the supreme decision-making body; it comprises ratifying governments and regional economic integration organizations, such as the European Union. Up to the year 2005, the COP had held seven sessions; it has been meeting biennially since 2001. One of the main functions of the COP is to review reports submitted by the Parties detailing how they are carrying out their commitments; the COP makes recommendations on the basis of these reports. It also has the power to make amendments to the Convention or to adopt new annexes, such as additional regional implementation annexes. In this way, the COP can guide the Convention as global circumstances and national needs change. To assist the COP, the Convention provides for subsidiary bodies and allows the COP to establish additional ones if necessary.

The Committee on Science and Technology (CST) advises the COP on scientific and technological matters. The CST is a subsidiary body of the COP; it provides the COP with information and advice on scientific and technological matters relating to combating desertification and mitigating the effects of drought using the most up-to-date scientific knowledge. It is multi-disciplinary, open to the participation of the Parties and composed of government representatives with relevant expertise. It reports regularly to the COP on its work, including at each of the sessions of the COP. The bureau of the CST is responsible for follow-up of the work of the Convention between COP sessions.

The Committee for the Review of the Implementation of the Convention (CRIC) assists the COP in regularly reviewing the implementation of the Convention.

A revised procedure for the reporting and review process of the implementation of the Convention was established at COP 5. A subsidiary body was established to consider reports from country Parties and observers, as well as information and advice from the CST and the Global Mechanism, and to report to the COP. The CRIC holds its yearly sessions during and between the ordinary sessions of the COP. The mandate and functions of the CRIC, as well as its schedule of meetings, are subject to renewal at COP 7. The review process leading to the CRIC, which includes input at subregional and regional levels, will allow it to draw conclusions and to propose to the COP concrete recommendations on further steps in the implementation of the Convention. The review is to be conducted along thematic lines decided by the COP, with due regard to geographic dimensions.

The COP is supported by a secretariat. As do other conventions' secretariats, it provides services to the COP by arranging its meetings, preparing documents, coordinating with other relevant bodies, compiling and transmitting information, and facilitating consultations and other actions. It also, on request, provides assistance to affected developing countries, in the compilation and communication of information required under the Convention. Affected developing countries can also to rely on the secretariat for information or advice on, for example, organizing their national consultation processes.

A Global Mechanism (GM) helps the COP to promote funding for Convention-related activities and programmes. This mechanism was not conceived to raise or administer funds. Instead, the GM encourages and assists donors, recipients, development banks, NGOs, and others to mobilize funds and to channel them to where they are most needed. It seeks to promote greater coordination among existing sources of funding, and greater efficiency and effectiveness in the use of funds. The GM is under the authority of the COP, which periodically reviews its policies, operational modalities and activities. The GM is hosted by the International Fund for Agricultural Development (IFAD).

Desertification, global change, and sustainable development

The Convention to Combat Desertification cannot be viewed in isolation from other efforts to promote sustainable development. The Convention text refers frequently to sustainable development, climate change, biological diversity, water resources, energy sources, food security, and socio-economic factors. The interactions between these issues and desertification are often not fully understood, but they are clearly important. The Convention therefore emphasizes the need to coordinate desertification-related activities with the research efforts and response strategies inspired by these other concerns.

Efforts to combat desertification complement efforts to protect biological diversity. While many people tend to identify the issue of biodiversity with tropical rain forests, dryland ecosystems also contain a rich biota, including plant and animal species not found elsewhere. Many of humanity's most important food crops, such as barley and sorghum, originated in drylands. Though disappearing fast, indigenous varieties remain a vital resource for plant breeders because of their resistance to stresses such as disease. Dryland species also provide drugs, resins, waxes, oils, and other commercial products. For example, drylands supply one-third of the plant-derived drugs in the US. Finally, drylands provide critical habitats for wildlife, including large mammals and migratory birds. These habitats are particularly vulnerable to land degradation.

Land degradation affects the quantity and quality of freshwater supplies.

Drought and desertification are associated with lower water levels in rivers, lakes, and aquifers. For example, unsustainable irrigation practices can dry the rivers that feed large lakes; the Aral Sea and Lake Chad have both seen their shorelines shrink dramatically in this way. Water crises are raising political tensions in many parts of the world, particularly where rivers and lakes are shared across borders. Land degradation is also a leading source of land-based pollution for the oceans, as polluted sediment and water washes down major rivers.

Natural climate variations can strongly affect drought patterns. Currently the best understood link between global climate variability and drought involves sea-surface temperature patterns. For example, the El Niño-Southern Oscillation, or ENSO, events, are associated with a warming of the eastern equatorial Pacific; they were especially frequent in the 1980s and early 1990s and occurred in tandem with widespread droughts in southern Africa and elsewhere. Research into such climate patterns is starting to improve seasonal rainfall predictions. Efforts to strengthen predictions are an important part of national action programmes to combat desertification and will help dryland farmers and herders to prepare better for droughts.

Climate change could worsen the effects of desertification. According to the United Nations Framework Convention on Climate Change, "countries with arid and semi-arid areas or areas liable to floods, drought and desertification ... are particularly vulnerable to the adverse effects of climate change." Scientists cannot yet predict how rising atmospheric levels of greenhouse gases will affect the global rate of desertification. What they can predict is that changes in temperature, evaporation, and rainfall will vary from region to region. As a result, desertification is likely to be aggravated in some critical areas but eased in other places.

Desertification may temporarily affect climate change. Land degradation tends to reduce surface moisture. Because less water is available for the sun's energy to evaporate, more energy is left over for warming the ground and, as a result, the lower atmosphere. Meanwhile, wind erosion in drylands releases dust and other particulates into the atmosphere. By absorbing the sun's rays or reflecting them back out into space, they may help to cool the Earth's surface. However, the energy they absorb can heat the lower atmosphere and in this way reduce temperature differences between the atmosphere's vertical layers; this can lead to fewer rainshowers and thus drier land. Finally, the periodic burning of arid and semi-arid grasslands, often associated with unsustainable slash-and-burn agriculture, emits greenhouse gases. So does the unsustainable use of fuel-wood and charcoal, a major cause of land degradation. On the other hand, reforestation is likely to have a cooling effect and is also, of course, an important way to combat land degradation.

Desertification exacerbates poverty and political instability. It contributes significantly to water scarcity, famine, the internal displacement of people, migration, and social breakdown. This is a recipe for political instability, for tensions between neighboring countries, and even for armed conflict. Evidence is mounting that there is often a strong correlation between civil strife and conflict on the one hand and environmental factors such as desertification on the other.

Combating desertification in Africa

Desertification has its greatest impact in Africa. Two thirds of the continent is desert or drylands. There are extensive agricultural drylands, almost three quarters of which are already degraded to some degree. The region is afflicted by frequent and severe droughts. Many African countries are landlocked, have widespread poverty, need external assistance, and depend heavily on natural resources for subsistence. They have difficult socio-economic conditions, insufficient institutional and legal frameworks, incomplete infrastructure, and weak scientific, technical, and educational capacities. These difficult circumstances explain why African countries have put so much effort into convincing the international community of the need for a “Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa”.

Africa’s desertification is strongly linked to poverty, migration, and food security. In many African countries, combating desertification and promoting development are virtually one and the same due to the social and economic importance of natural resources and agriculture. When people live in poverty, they have little choice but to over-exploit the land. When the land eventually becomes uneconomic to farm, these people are often forced into internal and cross-border migrations, which in turn can further strain the environment and cause social and political tensions and conflicts. (The link with migration was important to the international community’s recognition of desertification as a truly global problem, like climate change or biodiversity loss.) Food security can ultimately be put at risk when people already living on the edge face severe droughts and other calamities.

The Regional Implementation Annex for Africa outlines a strategy for action. This Annex is the most detailed and thorough of the regional annexes to the Convention. Its proposals for National Action Programmes benefited from early attention when Parties adopted a Resolution on urgent measures for Africa which entered into force in June 1994, some two and a half years before the Convention itself.

National Action Programmes strongly emphasize awareness-raising. Most African countries have organized national awareness-raising seminars in order to launch the process of formulation of their National Action Programmes (NAPs). The seminars gather together a wide range of stakeholders to discuss the Convention and its philosophy and how to apply it to national circumstances. In some countries, local-level seminars have also been held to bring the message even closer to the actors in the field.

Implementation of NAPs can be successful only if consultations are continuous. By August 2005, 30 African countries finalized, validated and adopted their National Action Programmes. These countries are Algeria, Benin, Burkina Faso, Cape Verde, Chad, Djibouti, Eritrea, Ethiopia, Gambia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Morocco, Mozambique, Namibia, Niger, Nigeria, Senegal, Sudan, Swaziland, the United Republic of Tanzania, Togo, Tunisia, Uganda, Zambia and Zimbabwe. The majority of the remaining 23 countries have launched the NAP elaboration process, with the objective to finalize them by the end of 2005 as requested by the COP. The preparation of NAPs is a dynamic ongoing process and the status of each country is subject to change over time. In order to be successfully implemented, the NAPs need to be integrated into other national strategies for sustainable development, such as the Poverty Reduction Strategy and consultative processes need to be launched, aiming at the setting up of partnership agreements. The participation of non-governmental organizations (NGOs) and of the scientific community is particularly important and their valuable contribution to the process has been widely recognized.

Four Subregional Action Programmes (SRAPs) have also been finalized. The existing subregional organizations in four subregions of Africa entrusted with coordinating these programmes are the Arab Maghreb Union (AMU) for northern Africa, the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS) for the west, the Intergovernmental Authority on Development (IGAD) for the east, and the Southern African Development Community (SADC) for the south. The elaboration of the fifth SRAP for Central Africa, coordinated by the Conférence des Forêts de l'Afrique Centrale (COMIFAC) is well advanced. While community-based organizations are very important actors in the process of formulating NAPs, such specialized intergovernmental organizations feature as main partners in designing SRAPs. When possible, these programmes seek synergies with other regional objectives. For example, a project for connecting subregional organizations to each other and to their respective member States via electronic systems will contribute to the strengthening of the regional communications network.

A Regional Action Programme (RAP) is also being developed. A Regional Coordination Unit (RCU) hosted by the African Development Bank in Tunis has been operational since early 2000, its main purpose is to support the implementation of the RAP. Further to the recommendations of the 1997 Pan African Conference on the Implementation of the UNCCD, seven thematic workshops were organized in 1998-1999 to look into prospects for establishing Thematic Programme Networks (TPNs) in order to promote the integrated management of international river, lake, and hydrogeological basins (TPN 1); agroforestry and soil conservation (TPN 2); rangelands use and fodder crops (TPN 3); ecological monitoring, natural resources mapping, remote sensing, and early warning systems (TPN 4); new and renewable energy sources and technologies (TPN 5); sustainable agricultural farming systems (TPN 6). The TPNs are coordinated by a focal point representing an African institution specialized in the respective thematic area. By now, all TPNs have been launched and priority activities are under implementation.

African countries have moved from planning to action, but the real work still lies ahead. To succeed, affected countries must ensure that combating desertification is given top priority and that NAPs are effectively linked to poverty reduction and investment strategies. They must actively promote an enabling environment by adopting appropriate legal, political, economic, financial, and social measures. For instance, they may need to change their rules on land use and ownership, further decentralize government administration and strengthen political rights at the local level. Meanwhile, external partners will have to prove themselves fully committed to the principles of the Convention by entering into productive partnerships with affected countries. Greater efforts, including capacity-building and financial support, are also needed to enable NGOs and civil society to remain active throughout the implementation stage.

Relevant parts of the Convention: Annex I: Regional Implementation Annex for Africa

Combating desertification in Asia

Desertification manifests itself in many different forms across the vast Asian continent. Out of a total land area of 4.3 billion hectares, Asia contains some 1.7 billion hectares of arid, semi-arid, and dry sub-humid land reaching from the Mediterranean coast to the shores of the Pacific. Degraded areas include expanding deserts in China, India, Iran, Mongolia and Pakistan, the sand dunes of Syria, the steeply eroded mountain slopes of Nepal, and the deforested and overgrazed highlands of the Lao People's Democratic Republic. Asia, in terms of the number of people affected by desertification and drought, is the most severely affected continent. To be fully effective, activities to combat desertification and drought need to be carefully tailored to the particular circumstances and needs of each country.

The Convention's Regional Implementation Annex for Asia recognizes these particular conditions. It calls for activities at the national, subregional, and regional level in the form of coordinated and integrated action programmes. The integration of activities directly related to the combat against desertification into other environmental and sustainable development strategies is meant to maximize the output and benefit for affected country Parties. Therefore, action at the local level should combine the fight against desertification with efforts to alleviate rural poverty.

The Asian and Pacific countries to have adopted their National Action Programmes (NAPs) are: China, India, Indonesia, Iran, Kazakhstan, Kyrgyzstan, Lebanon, the Lao People's Democratic Republic, Mongolia, Myanmar, Nepal, Pakistan, Palau, Philippines, Sri Lanka, Syria, Tajikistan, Thailand, Turkmenistan, United Arab Emirates, Uzbekistan, Vietnam, Yemen and Saudi Arabia. The other affected developing countries in the Asia and Pacific region are at various stages of NAP formulation. The preparation of NAPs is a dynamic ongoing process and the status of each country is subject to change over time. The Convention's "bottom-up" approach, whereby existing desertification programmes are reviewed by the stakeholders, including non-governmental organizations (NGOs), local authorities, and community leaders, was generally adopted in formulating NAPs. Mainstreaming the NAPs in order to enhance their effective implementation is another important consideration in this regard.

As one of the major affected country Parties in Asia, China illustrates the need to make combating dryland degradation a long-term strategic goal in its NAP. It is estimated that some 27 percent of the country's land mass is desertified, with an average of 2,460 square kilometers of land being lost to advancing deserts each year. Nearly 400 million people live in these areas, and the economic loss to China has been estimated at around US\$ 6.5 billion a year. China has responded to this environmental threat, which has serious socio-economic ramifications, by passing laws and drawing up a NAP. The NAP was formulated within the framework of the country's agenda 21 for sustainable development, an act to prevent and combat desertification was adopted in August 2001 and entered into force on 1 January 2002. Coordination is being stirred and maintained by the China National Committee to Implement the Convention to Combat Desertification (CCICCD), which has 18 ministries or government agencies as its members. CCICCD is supported by a permanent secretariat and three centres: a research centre, a monitoring centre, and a training centre. China has established four million ha plantations each year, most of which are aimed at land degradation control. Recently, the Government has taken the initiative of encouraging people to convert farmland (on steep slopes or marginal lands) back to forests, in order to reduce desertification.

Regional activities are being launched through Thematic Programme Networks (TPNs). Based on the principles contained in the Convention to Combat Desertification and its regional annex for Asia, a number of regional meetings introduced an approach that has become central to regional cooperation in Asia: the TPNs. Each network deals with one core aspect, which is either a cause or an effect of desertification, and aims at providing and promoting regional solutions through improved and innovative regional cooperation and exchange of information. The networks have evolved following the 1997 Beijing Ministerial Conference, the

1998 Muscat meeting and the 1997 Tashkent Conference. The implementation of the NAPs is advanced by the promotion of regional cooperation and capacity-building at national and sub-regional levels through the six TPNs adopted at the Beijing Ministerial Conference. These are Desertification monitoring and assessment (hosted by China and launched in July 1999), Agroforestry and soil conservation (hosted by India and launched in May 2000), Rangeland management and fixation of shifting sand dunes (hosted by Iran and launched in May 2001), Water resources management for arid-land agriculture (hosted by Syria and launched in July 2002), Strengthening capacities for drought impact mitigation and combating desertification (hosted by Mongolia and launched in July 2003), and Assistance for the implementation of integrated local area development programmes (LADPs) (hosted by Pakistan and launched in June 2004).

West Asian countries are implementing a subregional action programme (SRAP) to strengthen their activities under the Convention. In response to the sub-region's needs, West Asia-based organizations have formulated activities promoting intergovernmental cooperation within the subregion. The activities within the SRAP will focus on two main areas: water resources and vegetative cover. An operational structure was finalized and agreed at the Dubai meeting (February 2000).

All the Central Asian Countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) are affected or severely affected by drought and desertification. The main feature of the Central Asian subregion is that it comprises countries with very similar patterns of historical, economic and political development in the pre-independence (1991) period. Since the early 1990s, all countries of the subregion have been undergoing a process of radical socio-economic reforms, including democratization, decentralization, privatization, improved access to information for ordinary citizens, and land reforms, which have direct or indirect implications for environmental protection, including combating desertification. The transformation period has been accompanied in most countries by serious economic difficulties, which, in some cases, have been exacerbated by political disturbances. Despite these difficulties, the Central Asian countries have adopted measures that are conducive to the effective implementation of the Convention. The sub-regional project, such as this on the Aral Sea Basin (SRAP/CD) reflects subregional cooperation for combating desertification and land degradation. Agreement was reached to start implementation of the SRAP/CD through organizing training courses for countries of the sub-region. Activities are being undertaken to start implementing national projects to combat desertification under the Central Asian Countries Initiative for Land Management.

East, Southeast, and South Asia has a very varied climate and contain much biological diversity. Nevertheless, the magnitude of soil erosion and the resulting loss of biodiversity and agricultural productivity are increasingly threatening both the ecological and the economic base of many countries. Concerted action is needed to halt the emerging trends. The 1996 Delhi Conference and the 1997 Beijing Ministerial Conference endorsed the principle of cooperation across climatically different regions in order to prevent further land degradation. South Asian Country Parties adopted SRAP in Sri Lanka in July 2004, and Southeast Asian Country Parties are expected to finalize and adopt SRAP after the seventh session of Conference of Parties (COP7). Many countries have expressed interest in organizing regional and subregional consultative meetings on the Asia-wide TPNs.

The 14 Pacific Country Parties are unique in their problems and the ways to address those problems. Drought preparedness, land productivity and vulnerability to natural disasters and economic shocks are the main issues confronting them in relation to sustainable development, including this Convention. The Pacific Island Workshop held in Apia, Samoa in May 2001 laid down the blueprint for developing a Pacific Island Initiative on agroforestry, water harvesting, land use monitoring, and early warning systems for drought forecasting. In view of their geographic isolation and the relatively small size of their economies, the countries at that meeting recommended the adoption of a subregional approach in the implementation of the Convention, together with national level activities.

Relevant parts of the Convention: Annex II: Regional Implementation Annex for Asia

Combating desertification in Latin America and the Caribbean

Although well known for its rain forests, Latin America and the Caribbean is actually about one-quarter desert and drylands (20,533,000 km²). The hyper-arid deserts of the Pacific coast stretch from southern Ecuador, the entire Peruvian shoreline and northern Chile. Further inland, at altitudes of 3,000-4,500 meters, high and dry plains (Altiplano) of the Andean mountains cover large areas of Peru, Bolivia, Chile, and Argentina. To the east of the Andes, an extensive arid region extends from Chaco's northern reaches in Paraguay to Patagonia in southern Argentina. Northeastern Brazil contains semi-arid zones dominated by tropical savannahs. Large parts of Colombia and Venezuela are highly degraded. In Dominican Republic, Cuba, Haiti and Jamaica, there are arid zones, as erosion and water shortages are noticeably intensifying in the Eastern Caribbean. Most of Mexico is arid and semi-arid, mainly in the north. Land degradation and severe droughts make the Central American countries vulnerable to extreme events, delaying their sustainable development.

Poverty and pressure on land resources are causing land degradation in many of these areas. A region with 465 million inhabitants, around 110 million live below the poverty line.

The Convention to Combat Desertification has strong political support. All countries in the region have already joined the Convention and its issues are becoming part and parcel of the national agendas on sustainable development and combating poverty. Non-governmental organizations (NGOs) have organized efforts through the International network of NGOs, RIOD (Réseau Internationale d'Organisations Non Gouvernementales sur la Désertification). The network has four subregional focal points and one regional focal point. While RIOD's contribution is important, more needs to be done to attract NGO participation at the national, subregional, and regional levels.

The Regional Annex for Latin America and the Caribbean strongly emphasizes the need for sustainable development. Unsustainable practices include excessive irrigation and inappropriate agricultural practices, inadequate legal issues, inappropriate use of soil, fertilizers and pesticides, overgrazing, and intensive exploitation of forests. Frequent droughts and forest fires along with these practices lead to land degradation. Indeed, the sharp losses of ecosystem productivity reduce overall economic productivity and livelihoods.

National Action Programmes (NAPs) have been formulated in most countries of the region; the bottom-to-top process is being finalised with the involvement of all relevant stakeholders, including civil society. Although this process benefits from the region's strong scientific resources, much remains to be done, however, at institutional and technical levels to increase and strengthen the capacities of a promising critical mass in the region that would allow effective progress and concrete achievements.

The Regional Action Programme (RAP) of March 1998 was assessed, reviewed and updated in 2003 for enhanced coordination of national efforts and synergies. The RAP includes six crosscutting thematic programme networks, on benchmarks and indicators, information (DESELAC), integrated water management, agroforestry, traditional knowledge and renewable sustainable energy. A Regional Unit (RCU) was established in Mexico City in the United Nations Economic Commission for LAC (ECLAC). The coordination level has been facilitated and further enhanced,

aimed at, inter alia, promoting exchange of information and experiences; technical, scientific and financial collaboration, partnerships with cooperation agents as well as providing valuable feedback to activities and projects derived from NAPs, SRAPs and the RAP.

Several subregional programmes have also been launched and further implemented. The SRAP of Gran Chaco Americano (Argentina, Bolivia and Paraguay) is implementing sound actions on socio-economics and environmental degradation. The SRAP for Puna Americana, (Argentina, Bolivia, Chile, Ecuador and Peru) has become an important tool to link NAP processes at the sub-regional level, while promoting sustainable development, also through awareness raising and increased stakeholder participation in related processes. The SRAPs of Hispaniola (Dominican Republic and Haiti) and Colombia and Venezuela, have shown progress, one in the trans-boundary area and both in institutional cooperation; strengthening of these actions is underway. Concerning the Caribbean, protection of biodiversity, actions and assessment of land degradation, partnership building, and awareness of sustainability of such ecosystems are centre stage. The Mesoamerican countries are jointly aiming to further cooperation efforts on land degradation and drought.

Relevant parts of the Convention: Annex III: Regional Implementation Annex for Latin America and the Caribbean

Combating desertification in the Northern Mediterranean

The Northern Mediterranean region is a complex mosaic of diversified landscapes. It has been settled and cultivated for millennia by various cultures and civilizations. Much of the region is semi-arid and subject to seasonal droughts with high rainfall variability or sudden intense downpours. It is also marked by high population densities, heavy concentrations of industry, and intensive agriculture. Although people here often use the term “desert”, they do so in the sense of wilderness, lack of population, or isolation.

Mediterranean land degradation is often linked to poor agricultural practices. Soils become salinized, dry, sterile, and unproductive in response to a combination of natural hazards - droughts, floods, forest fires - and human-controlled activities, notably over-tilling and overgrazing. The situation has been aggravated by the social and economic crisis in traditional agriculture in recent years and the resulting migration of people from rural to urban areas. The result is abandoned land, particularly on marginal and easily eroded hillsides, and weakened agricultural planning and land management.

The modern economy is also contributing to the problem. Fertilizers, pesticides, irrigation, contamination by heavy metals, and the introduction of exotic (invasive) plant species is undermining the long-term health of the region’s soils. Physical changes imposed on water-courses by the construction of reservoirs, the canalization of rivers, and the drainage of wetlands are affecting land quality. Meanwhile, groundwater levels are declining widely, resulting among other things in salt-water intrusion into coastal aquifers. Some 80 percent of the region’s available freshwater is used for irrigation. The dramatic and continuing growth of industry, tourism, intensive agriculture, and other modern economic activities along the coastlines is placing particular stress on coastal areas.

Among the Northern Mediterranean affected country Parties, seven are members of the European Union. Thus the fourth regional implementation annex offers concrete opportunities for strengthening mutual cooperation and more effective national action. The European Community, France, Monaco and Israel are participating in the subregional and regional processes as observers.

A subregional group (Greece, Italy, Portugal, Spain and Turkey) has already prepared the terms of reference and is in the process of launching a Subregional Action Programme (SRAP). A regional consultative mechanism was established with the assistance of the UNCCD secretariat. At the regional level, activities are being undertaken particularly through the establishment of regional thematic networks for scientific cooperation, organization of workshop on technology and know how, development of mechanisms for exchanges of information and documentation and organization of regional training courses. In addition to intraregional cooperation, the Fourth Annex calls on its members to cooperate with other regions and subregions (Central and Eastern Europe for example), and particularly with the developing countries of Northern Africa.

The Annex also stimulates action at national level. As of August 2005, Italy, Greece, Portugal and Turkey adopted their National Action Programmes (NAPs) to combat desertification. Other

affected countries from Northern Mediterranean are in the process of elaboration or finalization of their NAPs.

Desertification research is receiving a renewed emphasis. Dryland degradation has been studied for years in Africa and other regions, but less so in Europe. Fortunately, a number of research programmes are now assessing the impact of climate and weather on land and soil degradation in the region. EU members are also investing more in the systematic monitoring of land degradation, although there is still a need for better coordination of the collection, analysis, and exchange of data, including exchange of data with countries outside the EU. There is a need too for more technical and scientific cooperation on research into the causes of land degradation and on other desertification issues.

A number of other strategies also have great potential. It is widely recognized that one priority for the region should be protecting land that has not yet been significantly degraded. An effective and “integrated” approach to water management at the local, national, and regional levels needs to address simultaneously traditional and intensive agriculture, industry, employment, biodiversity, freshwater resources, water pollution, and the special problems of coastal areas. Synergies with other treaties should be exploited. Traditional knowledge and know-how need to be conserved and used. The development, adaptation, and transfer of anti-desertification technologies which are environmentally sound, economically viable, and socially acceptable can be more actively promoted. Finally, local communities and non-governmental organizations are being increasingly engaged.

Relevant parts of the Convention: Annex IV: Regional Implementation Annex for the Northern Mediterranean

Combating land degradation/desertification in Central and Eastern Europe

Land degradation/desertification and drought affect many parts of Central and Eastern Europe (CEE). The climate in much of the region, notably in Armenia, Azerbaijan, Bulgaria, Georgia, the Republic of Moldova, Romania, the Russian Federation and Ukraine, is classified as dry sub-humid; some areas, such as that along the northwest coasts of the Black Sea and the Caspian Sea, are even drier and are classified as semi-arid. The level of soil degradation is high through much of Central and Eastern Europe, and very high in some parts, for example along the Adriatic. While wind is not a major factor in soil erosion except in parts of the Russian Federation, water-induced erosion is considered to be medium to very high in many countries.

The region's particular concerns are addressed by the Convention's fifth regional implementation annex. The annex sets out guidelines and arrangements for implementing the Convention in Central and Eastern Europe. It was adopted by the fourth session of the Conference of the Parties in 2000 and it entered into force on 6 September 2001. Twenty CEE countries have already acceded to the Convention. The remaining two countries are expected to accede soon. Several CEE countries are members of the European Union and some countries are emerging donors.

Governments face many challenges as they seek to promote sustainable development. While continuing to manage their economic transition they must also reform many unsustainable development practices. A major concern is the crisis in agriculture due to soil depletion in arable lands and to other stresses. Inappropriate irrigation and the unsustainable exploitation of water resources are contributing to chemical pollution, salinization and the exhaustion of aquifers. Deforestation due to pollution stress and frequent forest fires also remain serious problems.

The fifth regional implementation annex for CEE countries also offers concrete opportunities for strengthening regional cooperation. Because economic activities and ecosystems are linked across borders, countries can benefit from coordinating their efforts. Important opportunities exist in the fields of scientific research, data management, information exchange, technology transfer, training, drought mitigation, and disaster preparedness. Common efforts can also contribute to rehabilitating lands degraded by industrial activities and nuclear wastes, reducing the consumption of fertile soils by urbanization and sharing and monitoring the use of transboundary water resources.

Some countries have expressed an interest in subregional activities aimed at solving specific transboundary problems, in particular related to the management of drought in South East Europe. A regional consultative mechanism is in the process of being established with the assistance of the UNCCD secretariat. Activities are being undertaken particularly through the establishment of regional thematic networks for scientific cooperation, organization of workshop on technology and know how, development of mechanisms for exchanges of information and documentation and organization of regional training courses

The annex will also stimulate action at national level. As at August 2005, National Action Programmes (NAPs) to combat desertification have been adopted by Armenia, Georgia, the Republic of Moldova and Romania and the implementation phase is being launched. Other affected countries from CEE region have started the preparation of NAPs or expressed an interest in preparing their NAPs. The preparation of NAPs is a dynamic ongoing process and the status of each country is subject to change over time. As in other regions, interested research institutes, non-governmental organizations (NGOs) and local communities are encouraged to participate in the preparation, coordination and implementation of NAPs.

Relevant parts of the Convention: Annex V: Regional Implementation Annex for Central and Eastern Europe