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**REVIEW OF THE IMPLEMENTATION OF THE CONVENTION, PURSUANT TO ARTICLE 22,
PARAGRAPH 2(A) AND (B), AND ARTICLE 26 OF THE CONVENTION**

**REVIEW OF REPORTS ON IMPLEMENTATION BY AFFECTED ASIAN COUNTRY PARTIES,
INCLUDING ON THE PARTICIPATORY PROCESS, AND ON EXPERIENCE GAINED AND RESULTS
ACHIEVED IN THE PREPARATION AND IMPLEMENTATION OF ACTION PROGRAMMES**

Addendum

COMPILATION OF SUMMARIES OF REPORTS SUBMITTED BY ASIAN COUNTRY PARTIES¹

Note by the secretariat

1. By its decision 1/COP.5, the Conference of the Parties (COP) decided to establish a committee for the review of the implementation of the Convention (CRIC). It decided also that the first session of the CRIC, to be held in November 2002, shall review updates to reports already available and/or new reports from all regions.

2. Furthermore, pursuant to decision 11/COP.1, the secretariat was requested to compile the summaries of reports submitted by affected country Parties and any group of affected country Parties that makes a joint communication, directly or through a competent subregional or regional organization. The same decision also defined the format and content of reports and required, in particular, a summary of the national report not to exceed six pages.

3. The present document contains the summaries of reports submitted by 33 Asian country Parties. The secretariat has also made these reports available on its Web site (<http://www.unccd.int>).

¹ Reproduced without formal editing.

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AUSTRALIA

Australia has well-established domestic initiatives to address the global challenge of combating desertification in addition to providing support and assistance to other affected countries. Domestically, the diversity of Australian landscapes and the continent's erosion-prone soils and climatic extremes has necessitated a coordinated and strategic approach to sustainable natural resource management. This approach centres on collaborative approaches between all levels of government, industry and the community. While agricultural and pastoral activities are critical components of our national economy, Australian landscapes are generally not well suited to many of the land-use and management practices imported from other continents over the last 200 years. This has catalyzed governments, research institutions, industry and communities to find ecologically sustainable approaches to land management. As a result, Australia has amassed considerable experience and expertise in managing and, where possible, reversing the decline in its natural resource base.

Australia has in place a substantial body of legislation, programmes and strategies for sustainable natural resource management, and has developed a range of domestic policy initiatives to encourage and build capacity in communities to address land degradation. The highly successful Australian Landcare model of community-based action is being internationalized through the International Secretariat for Landcare (based in Hamilton, Victoria). It has been adapted to establish Landcare South Africa and there is a growing interest in the movement from many other countries.

BANGLADESH

Bangladesh is a signatory to the United Nations Convention to Combat Desertification (UNCCD). This was signed in January 1996 and after ratifying the Convention the country became a Party to it. The Convention came into force in 1997. Among many environmental issues facing Bangladesh, land degradation due to aridity and loss of crops due to droughts have caused considerable economic losses and human suffering, more than any other problem in Bangladesh. It is feared that the desertification process may have started in some vulnerable areas. Therefore, the participation of Bangladesh in this Convention will benefit the country in resolving many problems relating to it.

Bangladesh comprises the floodplains of the Jamuna, the Padma, the Meghna and some of the smaller rivers. The Madhupur Tract, the Barind Tract and the Akhaura Terrace stand slightly above floodplain level, and the hills lie to the east and the north. The west-north-western part of the country is generally considered to be the drier region. Total precipitation in the dry regions is low but rainfall often occurs in sudden heavy storms, which sometimes lead to flooding and soil erosion. During the seven-month dry season in some regions, evapotranspiration exceeds the amount of rainfall by a factor of 2.0.

Between 1960 and 1991, droughts occurred in Bangladesh 19 times. Very severe droughts hit the country in 1951, 1961, 1975, 1979, 1981, 1982, 1984 and 1989. Past droughts have typically affected about 47 per cent of the area of the country and 53 per cent of the population. An analysis of the relative effects of flood and drought on rice production between 1969-1970 and 1983-1984 shows that drought is more devastating than floods to aggregate production.

According to the criteria set by the UNCCD for defining a dry region (the ratio of annual rainfall to potential evapotranspiration (ET_0) may be a maximum of 0.65), no region within Bangladesh can be termed as dry. However, Bangladesh does experience long spells of dry weather and moderate to severe droughts are spread over a region of 5.46 million ha. Based on annual rainfall, dry season net evapotranspiration and excess evapotranspiration (ET_0-R), and dry season R/ET_0 ratio value, a dry region is delineated and a map is prepared.

Characterization of land degradation in Bangladesh

The estimates of the extent of land degradation in Bangladesh are that over six million ha falls below the minimum threshold for sustainable cultivation. In drier parts of Bangladesh, low soil fertility is recognized to be at the root of the land degradation spiral leading to desertification. Land degradation in Bangladesh may be considered as a temporary or permanent lowering of the productive capacity of land. Natural processes that lead to land degradation in Bangladesh can be considered to be part of the ongoing land formation process. During 1983-1984 and 1997, an 11% decline in total cultivable area, and specifically a 14% decline in the cultivated area, has been observed.

Further evidence of land degradation is shown on satellite imagery which indicates a definite change in vegetation cover and soil moisture through many of the western regions of Bangladesh including Rajshahi, Kushtia, north-western Jessore, Pabna, western Bogra and southern Dinajpur. These affected areas are known as the Barind Tract, a largely monocultural area with shrinking wetlands, notably the Chalan Beel wetlands. Human intervention from densely populated adjoining regions (around the national average of 900 persons per km^2) makes these areas vulnerable.

There are accounts of groundwater table levels going below 8.95 m to 18.56 m in the dry season in areas in the north-western region of Bangladesh. This indicates that most of the shallow tubewells go below the suction lift capacity in the peak irrigation period. The groundwater levels beneath Dhaka City have fallen steadily over the last twenty-five years in response to continuous abstraction. Water levels have dropped, reaching a maximum depth of 20 metres below the ground surface in 1989 (from about three metres in 1965).

These accounts of lower water table levels, decreasing vegetative cover and decreased agricultural yields indicate disturbing trends of land degradation in many parts of western Bangladesh. As a result, alternative practices to

meet the demands for water, fuel and biomass have emerged but are deemed to be unsustainable including:

- the use of surface water for irrigation. This is a problem due to reduced water volume in most of the rivers of north-western Bangladesh in the low flow season due to upstream utilization withdrawal at increasing rates. This also adversely affects groundwater recharge potential;
- indiscriminate and inefficient use of chemical fertilizers and pesticides. There appears to be little or no monitoring and regulation of these chemicals which may pose threats to the sustainability of agriculture;
- attempts to intensify agriculture and increase the irrigated areas. This has led to loss of biodiversity through the conversion of forest land into agricultural land, abandonment of many indigenous crop varieties in favour of High Yielding Varieties (HYV), and the resulting depletion of soil nutrients and organic matter due to intensive cropping.

Current initiatives to combat land degradation

In response, Bangladesh has attempted to reverse these trends of land degradation through incorporating these activities as integral components of the national development strategies and national environmental planning. The current programmes to combat land degradation also include strategies for alleviating poverty because these two goals are complementary.

To combat land degradation and to attain sustainable land management and development, current Government programmes have focused on field-oriented activities in concert with strengthening institutional capacity that would enable policymakers to make informed decisions on best practices and appropriate mitigation measures. In addition, the Government of Bangladesh (GoB) wants to build programmes where field level research and community participation is strong to allow application of research results through extension programmes.

Current and completed GoB programmes include:

- Afforestation programmes on denuded Forest Department lands, and marginal lands controlled by a variety of other Government agencies;
- The Barind Integrated Area Development Project (BIADP) (later renamed the Barind Multipurpose Development Authority (BMDA)), started in 1985 and covering the Rajshahi, Naogaon and Nawabganj districts, was implemented to mitigate the processes of land degradation in the Barind region;
- Soil conservation and watershed management as a major component of the Fifth Five-Year Plan (FFYP). The FFYP also emphasizes measures to arrest further degradation of the land system and desertification process. The National Conservation Strategy (NCS) lays down the guidelines for integrating environmental concerns with development imperatives. Some of the longer-term measures that have been suggested under the National Environment Management Action Plan (NEMAP) have relevance to combating land degradation;

- GoB developed national plans or strategies for combating land degradation prior to the Convention, including the National Environment Policy, NEMAP, the Bangladesh Forest Policy and the National Water Master Plan (NWMP).

These strategies lay the foundation for promotion of homestead and social forestry, agro-forestry and reforestation of degraded sal forest regions as well as irrigation facilities for the vulnerable lands:

- Annual afforestation and tree planting programmes between the Ministry of Environment and Forests (MoEF) and the Department of Agriculture Extension (DAE) activities. These afforestation activities are taken up under various schemes and programmes of different ministries of the GoB. Under the Forestry Sector Project (FSP), planting of 40,000 ha of sal forest is planned during 1997-2003. Other programmes and projects include BIADP and Sustainable Environmental Management Programme (SEMP).
- Ecosystem management in the Barind area is designed to improve the ecosystem of the dry and degraded Barind land through community-based sustainable environmental activities. The NEMAP for the Barind area is aimed at combating desertification and raising environmental awareness; social mobilization and motivational types of activities have yet to be implemented;
- Electronic database on agro-ecological and drought prone areas of the country as managed by the Bangladesh Agricultural Research Council (BARC). The database contains information on the country's land resources including physiography, soils, climate, hydrology, cropping systems and crop suitability. The Agricultural Research Management Project supports strengthening of the management of the national agricultural research institutes and the promotion of research by private organizations;
- The UNCCD Trust Fund has been mobilized through a partnership arrangement with MoEF providing funds to selected activities for implementing the work of non-governmental organizations (NGOs);
- A two-day national seminar, in 1998, on Combating Land Degradation and Desertification in Bangladesh, was attended by over 70 participants representing governmental, educational and research institutions, local bodies, specialized NGOs and community-based organizations (CBOs), journalists and donor agencies. This seminar was instrumental in:
 - exchanging information and experience on land degradation and desertification and the effectiveness of existing policies and programmes;
 - raising public awareness of the importance of land improvement and its contribution to food production and natural resource management;
 - deriving a set of priority programme areas for the NAP;
 - recommending, *inter alia*, various actions for the NAP process relating to the identification and assessment of hot spots and rehabilitation of degraded land; and
 - outlining a programme of corrective or remedial measures for combating degradation and desertification in western Bangladesh.

Donor-assisted Government programmes include:

- SEMP, funded by the United Nations Development Programme (UNDP) as the follow-up implementation of (NEMAP), addresses the major environmental priorities identified by people through NEMAP. It consists of 26 project components and is being executed by MoEF and implemented by 21 Government organizations and NGOs throughout Bangladesh. SEMP will benefit people at the grassroots level, particularly women in eco-specific intervention areas;
- Forest Resource Management Project (FRMP);
- Bangladesh Environmental Management Project (BEMP), Canadian International Development Agency-funded institutional strengthening project to assist the Department of Environment (DoE) in meeting its mandate as defined in the Economic Commission for Asia (ECA) 1997;
- Water Sector Improvement Project (WSIP);
- Follow-up on River Bank Protection Project (RBPP);
- Bangladesh Arsenic Mitigation and Water Supply Project (BAMWSP);
- Coastal and Wetland Biodiversity Management at Cox's Bazar and Hakaluki Haor funded by the Global Environment Facility (GEF). The threats of excessive cutting of mangroves and fuel wood, and of beach compaction by vehicles used in tourism, will be addressed through land protection measures, village conservation and sustainable use, and integrated management plans.

The GoB is considering the formation of a national coordinating body (NCB) under which formal institutional measures for implementing the Convention will be undertaken. Six ministries with their associated departments and directorates along with NGOs could be parties to the NCB to implement the obligations and activities drafted under the Convention. The DoE is at present the implementing organ of MoEF and responsible for implementing the mandates of the UNCCD.

The GoB is also considering the development of a separate NAP in the spirit of the Convention. Under the existing policies and programmes, the contents of the NAP will aim for resource management and poverty alleviation. A bottom-up approach is planned for drafting the NAP, involving stakeholders and people at the grass-roots level, similar to those who participated on NEMAP. Priority areas have been identified and considered in formulation of the action programmes in line with the UNCCD. The key actors and stakeholders for the NAP have been identified as Government organizations, NGOs specializing in soil conservation and forestry, CBOs, and the private sector.

Required actions to meet obligations under the UNCCD

These accounts of Bangladesh's progress in tackling its problems of land degradation and desertification only point to the importance of continuous support from the GoB and the donor community. Follow-up actions are required to assist Bangladesh in meeting its obligations under the UNCCD. Prior to implementation of programmes to reverse land degradation and combat desertification under the UNCCD, the following tasks need to be implemented:

- Formation of a NCB for implementation of the UNCCD;
- Formulation of the NAP for implementation of UNCCD. This would involve collating all existing knowledge relating to land degradation and desertification and facilitating a participatory approach to informing, and soliciting input from, all stakeholders who can affect positive changes in land degradation activities in Bangladesh;
- Conducting an NAP workshop to prioritize the issues that are most pressing in the efforts to reverse land degradation and desertification processes;
- Formulate feasible implementation programmes which can be monitored and are specific in their time schedules to meet certain objectives of the NAP;
- Plan actions and mechanisms to meet the UNCCD obligations and enrich the knowledge base of land degradation and desertification processes;
- Ensure effective participation and linkages in the regional and subregional programmes under the UNCCD and the Thematic Programme Network (TPN) for cooperation between affected countries. This effort will foster cooperation with regional countries on these issues. Bangladesh will join the TPN, specifically the MoEF-led TPN-2 Agro-Forestry Management and Soil Conservation in Dry Areas, with assistance from UNDP in collaboration with BMDA, Bangladesh Centre for Advance Studies (BCAS) and other main institutions involved in these areas.

These tasks will accelerate formation of the NAP and mobilize the necessary Government and donor assistance required to implement a more comprehensive, coordinated and participatory programme of action to combat desertification and mitigate the effects of drought within the UNCCD framework. The NAP will also aim to provide an institutional mechanism to achieve better natural resource management.

CAMBODIA

General geographic conditions

Cambodia is located in South-East Asia. The total area of the country is 181,035 km², comprising 20 provinces and three municipalities.

Cambodia is bordered on three sides by mountains with a large central plain containing the Tonle Sap lake and river complex in the centre. To the west and south-west are the Card Omen and Elephant Mountains, the Dang Rek Mountains lie along the Thai border in the north, and the lower reaches of the central highlands of Viet Nam are found to the east. The central plains are extremely flat, with an elevation difference of 5-10 m between the south-eastern portion of the country and the upper reaches of the lake in the north-east, a distance of more than 300 km. The plains are a result of long-term deposition originating from the mountains within Cambodia and from sediments carried into the plain by the Mekong river.

The Mekong river rises and falls approximately 9 m each year, the height being influenced by melting snow in the Himalayas and rainfall in China, Myanmar, North Viet Nam, Lao People's Democratic Republic and Thailand. In Cambodia, it passes through the provinces of Steung Treng, Kratie and Kampong Cham until it converges with the Tonle Sap Lake at Phnom Penh. When it

reaches Phnom Penh, the water divides and flows down both the Mekong and Bassak rivers to Viet Nam. As the river rises, some water also flows back up to Tonle Sap Lake. The lake can expand tenfold in area to approximately 25,000 km² between the month of May and November. Receding water from the large reservoir flows primarily down the Bassak and Mekong rivers and feeds many irrigation areas in Kandal, Prey Veng and Takeo.

At the beginning of the wet season, farmers who possess land suitable for deepwater rice plough their soil and broadcast rice seed. In ideal seasons, these crops receive sufficient local rainfall to allow six or more weeks of growth before mid-July. Flooding rivers also flow up hundreds of small rivers and channels connected to lakes and small ponds. The lakes are allowed to flood during the wet season and, as the main river begins to recede, the access ways are blocked off with barriers erected by farmers to retain the water for dry season crop production. Crops are planted along the edges of the flooded areas and, as the water recedes during the dry season, water is pumped back onto the crops where possible. Heavy silt loads in the Mekong river assure annual fresh deposits of fertile soil over the deepwater and recession rice areas.

Major ecosystems of Cambodia

The natural ecosystems of Cambodia consist of tropical forests, rivers, lakes and coastal areas. Man has influenced these natural ecosystems over thousands of years. Forest has been cleared to create rice growing land, thereby giving rise to rice ecosystems. The movement of humans to live in cities, towns and villages is known as urbanization. These towns and cities can be described as urban ecosystems.

The major bioclimatic regions described in the 1997 Biodiversity Prospectus are: coastal and mountainous areas of the south-west, central plains which include the Great Lake of the Mekong and the surrounding areas, and the northern and north-eastern areas.

The temperature in the hottest months is high (41°C maximum in April) and the temperature of the coldest month averages 25°C in the lowlands and 20°C in the uplands. Rainfall varies between 1,500-2,000 mm in the lowlands and higher than 3,000 mm in the uplands. The dry season is four months long, December to March. Most of the land is still covered by forests.

Rice ecosystems of Cambodia

The rice ecosystems are among the most important terrestrial ecosystems for the Cambodian population in terms of food security. As in any other ecosystem there are living and non-living components and rice is undoubtedly the most important living component of the ecosystem. Rice ecosystems in Cambodia as elsewhere are influenced by rainfall/flooding patterns, soil suitability and the country's topography. As a result, Cambodian rice-growing ecosystems can be grouped into the following broad categories:

Rainfed lowland rice: Rainfed lowland rice represents 86% of the total annual rice cropping area of Cambodia. It is characterized by flat bounded rice fields which depend almost entirely on rainfall or surface run-off for their water supply.

Deepwater or floating rice: Deepwater rice areas can be classified as low-lying areas and depressions that accumulate flooded water to a depth of between 50 cm and a maximum of 3 m for at least one month during the growing period. Deepwater rice production areas account for only 4% of the total annual rice cropping area in Cambodia. These areas are located mainly around the Tonle Sap Lake and along the Mekong and Basac rivers.

Rainfed upland rice: The area under rainfed upland rice cultivation accounts for 2% of Cambodia's total annual rice cropping areas. Upland rice areas are unbounded fields in the mountainous and rolling hill areas of Cambodia (Mondulkiri, Rattanakiri, Kratie, Koh Kong, Kampong Cham and Kampong Thom). In the shifting cultivation areas of the north-east of Cambodia, upland rice is an integral part of the "chamkar-farm". The ethnic minority groups practise this type of cultivation almost exclusively. Permanent upland rice production is commonly practised by Khmers, where a field of rice is grown annually either on its own or as an inter-crop or in rotation with other upland crops.

It is worth emphasizing that a base of such a shifting kind of cultivation (swidden or slash and burn culture) has destroyed many thousands of hectares with an average estimation of 5,000 ha in each of the 19 provinces in a single year, not including the calculation from some targeted provinces, where non-sustainable harvesting is very intensive.

Dry season irrigated rice: Dry season production accounts for 8% of the total cropping area in Cambodia. The distribution of dry season production is primarily in those areas close to the major rivers and their flood plains. Dry season rice production is associated with higher yields than wet season production due to higher solar radiation, better water control and the cultivation of more fertilizer-responsive varieties.

Nutrient calculation: The nutrient calculation in rice fields is governed by the various nutrient cycles (carbon, phosphorus, nitrogen cycles etc.). There is still a net deficit being returned to the various nutrient cycles. This nutrient deficit results in a need to supplement the natural cycle by adding inorganic fertilizers such as Urea, DAP, NPK and so on.

Wetlands

The majority of Cambodia's freshwater wetlands are found around the Tonle Sap Lake and along the Mekong river and its tributaries. They comprise the Tonle Sap Lake, other permanent lakes and swamps and annually inundated flood plains. The total wetlands area increases nearly tenfold from about 0.5 million ha in the dry season to 5 million ha in the wet season (July-September) in an average year. The Tonle Sap Lake alone increases fourfold in area from 250,000 ha in the dry season to about 1,000,000 ha in an average year, and to about 1,350,000 ha in a wet (heavy rainfall) year. The surface

of the lake is reported to vary from 2,700 km² during the dry season to approximately 16,000 km² at the maximum level of flooding, and the water level depths vary between 1 m in the dry season to 9 m in the wet season. The total wetland area in an average year represents nearly 28% of the total area of the country (181,035 km²) and in a wet year it can be as high as 35%.

Rivers and lakes

Worldwide freshwater habitats are very limited in area, with inland lakes covering about 1.8% of the Earth's surface and running water in rivers and streams covering about 0.3%.

However, the Mekong river-Tonle Sap system dominates the hydrology of Cambodia. The Mekong river rises in the Tanghla Shan Mountains in the Tibetan Plateau and flows through Myanmar, Lao People's Democratic Republic, Thailand, Cambodia and Viet Nam. A further 10-20% comes from the Sesan, Srepok and Sekong in north-east Cambodia and the remaining 10% from the rivers that drain Cambodia into the Tonle Sap Lake. Eighty-six per cent of the land of Cambodia lies within the catchment of the Mekong river.

The Tonle Sap Lake, also known as the Great Lake, lies in the centre of Cambodia and is connected to the Mekong river at the Chak Tomuk by the Tonle Sap river. The Great Lake is the largest permanent freshwater lake in south-east Asia. The Tonle Sap-Mekong river system has a unique hydrological feature. Each year during the wet season the Tonle Sap river reverses its direction, allowing the flooded water of the Mekong to flow into the Great Lake.

CHINA

China is the biggest developing country in the world, and is one of the most severely affected countries suffering from desertification. The total area of desertified land in China is 2,674,000 sq km, occupying 27.9% of the total land territory. The patterns of desertification-affected land include wind erosion, water erosion, salinization/alkalization and desertification caused by freezing and melting processes. Desertification-affected lands are mainly distributed in the central and western part of China, including 18 provinces (autonomous regions, municipalities). At present, desertification is spreading with an annual growth of 10,400 sq km, with 400,000,000 people affected. The annual direct economic loss caused by desertification is approximately 6,500,000,000 US dollars. The increasing population and poverty are the main factors causing desertification. The Chinese Government has made sustained efforts on combating desertification with initial success achieved.

The Chinese Government always attaches great importance to combating desertification

As early as the 1950s, the Government organized people to combat desertification, mainly through planting trees and grasses. In recent years, President Jiang Zemin and Prime Minister Zhu Rongji have both made important statements on ecological construction. In the development of China's western

region, ecological development has been viewed as one of the fundamental tasks and an entry point. Local government at different levels has also incorporated desertification into its key agenda. Combating desertification has initially set up a relatively stable management and service system, which exists throughout the area from central to local government, from education and research to productive practice, from law and regulation to villagers' customary rules. From 1978, China has with initial success carried out in succession a series of ecological projects mainly targeting protecting and improving the ecological environment and combating desertification. Through these projects, more than one hundred cost-effective and simple development models and techniques for combating desertification and utilizing land resources have been popularized, which has improved the ecological environment in some areas, with forests enhanced, grass enriched and more production of grains and animals. With good results from the above practices, the great potential of combating desertification has been manifested.

China has made great breakthroughs in implementing the UNCCD

The Government of China has determined "sustainable development" as a major national developmental strategy and has defined environmental protection as the basic national policy. China harmonizes the developmental strategies of economy, society, resources, environment and population. Desertification combating has been incorporated into the State Economic and Social Development Plan. China has successively developed a number of important documents such as "China 21st Agenda", "China Environment Protection 21st Agenda", "China 21st Agenda - Forestry Action Plan", "China National Action Programme to Implement the United Nations Convention to Combat Desertification (NAP)", "China Eco-environment Promotion Plan". In China, economic reconstruction and environment protection is stressed in integrated forms of synchronous planning, synchronous implementation and synchronous development.

China has perfected governmental leading and coordinating organizations at all levels to intensify institutional guarantees for combating desertification. As regulated by law, under the leadership of the State Council, the State Forestry Administration is in charge of the organization, coordination and guidance of the State's desertification/sandification combating and prevention. The State Council's various administration departments of forestry, agriculture, water resources, land and environmental protection, according to their function, each one doing its duty, cooperate closely to contribute to combating desertification. In 2001, the Chinese Government adjusted the China Combating Desertification Coordinating Group/China National Committee for the Implementation of the UNCCD (CCICCD), with members from 17 to 18 departments of the State Council, the office and secretariat affiliated to the State Forest Administration. The National Bureau to Combat Desertification is the substantial administrative body. The e-mail address of the Office or Secretariat for the Coordinating Group/CCICCD is CCICCD@forestry.gov.cn.

China consistently enhances the development of its legal system and establishes effective legal guarantee systems for combating desertification. Up to the present, China has promulgated about 20 administrative laws

relating to environmental protection. The legal guarantee system combining environmental protection laws, national laws, other relevant laws and regulations promulgated by the State and local governments have been initially formed. On 31 August 2001, the Standing Committee of National People's Congress passed the Law on Combating Desertification, which came into force on 1 January 2002. This is the first law on combating desertification, spelling out that combating desertification has been led to the legal path. At present, the Chinese Government is drafting detailed regulations and rules attached to the Law. Furthermore, China has also strengthened law enforcement against environmental illegality, has sent out special commissions to investigate environmental illegality, and has enhanced evaluation of the impact of resources exploitation on the environment.

Since the first World Day to Combat Desertification and Drought on 17 June 1995, China has carried out large-scale publicity and public awareness-raising activities for combating desertification in Beijing and dozens of other large cities on each 17 June, which has produced fruitful achievements in raising public awareness.

China actively implements the NAP, and organizes large-scale trans-regional, trans-drainage-area and trans-department ecological projects to speed up combating desertification. In 2001, the State Council ratified a new package of forest plans integrating and merging over a dozen national forest projects into six key projects. The hugeness of the investment, the greatness of the scale, and the extent of the coverage are probably unprecedented in the world. At the same time, the reclamation and amelioration of pasture, the greening along the railways and highways, and the tackling of water and soil erosion have been intensified; meanwhile the "Eight-Seven Poverty Alleviation Plan"¹ is receiving effective implementation. Implementation of these ecological and social projects has progressively brought desertification under effective control in the project area, with substantial ecological, social and economic benefits acquired. At the end of 2000, the poverty population in China was 30 million, a sharp contrast to the 250 million in 1978.

China attaches great importance to science and technology research and popularization on combating desertification, and brings the roles of scientists and technical personnel into full play. A senior expert group of the China National Committee for the Implementation of the UNCCD was established, composed of 20 senior scholars from different departments to enhance the technical assistance to combating desertification. Research into combating desertification was defined as the key strategic research commitment, with scientific and technological research programmes organized. A large number of popularization handbooks have been edited and disseminated. China has organized in succession a series of activities such as "Sending 100 technicians to villages to popularize science and technology" to disseminate practical technologies for combating desertification. Many favourable policies are formulated to encourage scientific research institutes and individuals to provide technology services. Moreover, combating desertification has been incorporated into the nation's higher education

¹ 'Eight-Seven' represents reducing the poverty population by 80 million within the seven years from 1994 to 2000.

outlines, and personnel from different levels are organized to attend training courses. Since 1994, the early warning system for drought and the monitoring system for desertification have been established, laying a firm foundation for the improvement of scientific decision-making.

China makes great efforts to perfect policies to mobilize people from every walk of life to participate in combating desertification. To protect the ecological environment in the western area, a series of favourable policies have been initiated. The Chinese Government has carried out policies such as auctioning "Four Barrens" (barren mountain, barren valley, barren desert and barren land), "those who plant trees have the right to manage and benefit", "to contract lands to individuals, to allocate grain as a form of relief to the people in stricken areas", and the Government compensates the ecological forests in cash, etc. In most areas a policy of rangeland contracting has been carried out, which defines that the rangelands are publicly owned and contracted to households, with livestock owned by households and services provided by society. The Government offers a free grain subsidy, grant-in-aid and a seeds and seedlings subsidy. It is stipulated that all the nation's citizens ranging from 11 to 60 years old (55 for women) should plant 3-5 trees every year: everybody should make a contribution to afforestation and combating desertification.

All-out implementation of the UNCCD: Since 1996, China has hosted many important meetings under the UNCCD framework, and has actively participated in the building of TPNs. At present, China is actively participating in subregional and regional combating of desertification, and consulting with pertinent neighbour countries on issues with a common interest.

China invests in desertification combating through various channels, and explores thoroughly the building of international partnerships. The Chinese Government allocates more than US\$ 1,200,000 to desertification monitoring. From 2001, funds invested both from central Government and local government in forestry ecological projects are US\$ 6 to 8.5 billion each year. Funds allocated from integrated agricultural development invested in combating desertification come to over US\$ 42 million each year. Funds used each year for controlling soil erosion are approximately US\$ 0.2 billion. US\$ 1.2 to 2.4 million are used in combating desertification along the railways. US\$ 76 million are used along the roads. Government-discounted loans for combating desertification every year amount to approximately US\$ 70 million. Besides the above, large amounts of funds are used in treating rangelands, poverty alleviation, scientific researches, land reclamation and so on. The Government has stipulated that 3% of the national investment in key forest ecological projects and 10% of the investment for integrated agricultural development should be used for scientific and technological support. The Chinese Government has signed bilateral cooperation agreements on aided projects with the governments of Germany, Japan, the Netherlands, and the Republic of Korea among others. In desertification-affected areas, the inter-governmental projects being carried out amount to dozens, including ecological afforestation, watershed treatment and capacity-building. Total aid funds are around US\$ 0.4 billion. In addition, local government has also signed some cooperation projects with relevant countries. In the field of science and technology, the projects being carried out include: synthesized

treatment technologies research and development experiment project with Israel, research into sources and counteraction of wind erosion in the Qinghai-Tibet Plateau with Germany, research into impacts of climate change on agriculture, ecological systems and water resources in dry areas with the European Community, research into measures and evaluation of combating desertification in Kerqin Desertified Land with Japan, and assessment of sandification in the origin of the Yangtze river.

China ceaselessly revises and perfects her NAP
according to the needs of development

China ceaselessly revises and perfects her NAP according to the needs of development. The new updated NAP (draft) is an integration of the Action Plans of each member of the Coordinating Group, with the sectors of forestry, water resources, agriculture, railways, roads and meteorology mainly involved.

China sets up the financial mechanism for implementing the NAP
to guarantee successful implementation

The Chinese Government incorporates the NAP into the national economic and social development plan through the form of law, so as to ensure financial guarantees. The Law on Combating Desertification provides that "The country shall implement the unified National Action Plan to Combat Desertification (NAPCD). Activities relating to desertification prevention and control and activities relating to development and utilization within regions of desertified land must comply with the NAPCD."

China sets up a national desertification monitoring mechanism
to serve the needs of the Government's macro decision-making

China has already officially incorporated desertification monitoring into her national economic development plan. The Law on Combating Desertification, which came into force on 1 January 2002, regulates the national desertification monitoring, which may be the first concrete legal binding on desertification monitoring in the world.

China has carried out two rounds of national desertification monitoring, separately in 1994 and 1999. The results of monitoring are directly applied to national or local desertification combating. For instance, desertification monitoring has exerted its contribution in areas such as the formulating of national, provincial or county level desertification combating and prevention plans, defining key project areas and macro decision-making for selecting measures for various areas of different patterns. China has set up data banks and map banks at national and provincial level; users can consult detailed data on desertification-affected land in any geological or administrative area in China at any time. Users can do this as long as they have abided by the pertinent procedure. The administrative body at national or provincial level officially releases the main results of national or provincial desertification monitoring. Domestic or foreign agencies or individuals can freely use the officially released data. At present, China is studying setting up a mechanism of promoting the desertification monitoring results to

be widely applied by society. In the future, the social and economic benefits of desertification monitoring will be more fully acquired.

INDIA

India became a signatory to the UNCCD on 14 October 1994 and the Convention came into effect in March 1997. One of the obligations of all developing country Parties to the Convention is the preparation of a national report on the status of implementation of the UNCCD.

This national report, the second in respect of India, deals with the progress made since the first report. The Ministry of Environment and Forests, as the national focal point for the UNCCD, has prepared the national action programme (NAP) which is characterized by the following features:

- Water is a diacritical element for building people's confidence and satisfaction level, reclamation of degraded lands for sustainable biomass production ultimately leading to a better quality of life and enabling conditions through empowerment of the local communities.
- Bottom-up approach and project planning, evaluation and monitoring by Panchayat Raj Institutions (grass-roots level elected local self governments), in which women have at least 30% representation, would be followed. Capacity of the PRIs and CBOs constituted by them, such as self-help groups and user groups, would be built up on all aspects of land development including rehabilitation of degraded areas, encompassing technical, financial group dynamics, equity, gender, etc.
- Convergence of resources and services. All resources available under different schemes will be channelled through Panchayats. Thus, a single window service will be available to the communities.
- Gaps in all the ongoing schemes of different departments will be identified and resources will be provided to fill them in order to generate good impact at ground level.
- The first five-year period will be experimental and will include pilot projects and activities.
- Concurrent and continuous monitoring will be done and mid-course correction will be effected as experience is gained.
- The problem faced by the farmers will be reported to research and development institutions in order to find solutions. Thus both a lab-to-land and a land-to-lab flow of information will be ensured.

The NAP was presented to COP 5 and the likely donors. The donors are examining the same. At home, it was also presented before the Parliamentary Consultative Committee on 5 November 2001. This Committee is comprised of elected Members of Parliament, and advises the Government on important policy matters. On the advice of this august body, as a first step, to disseminate the importance of combating desertification and land degradation, publications have been produced in the local dialect to educate the public.

TPN2 Workshop in Hyderabad: The Ministry of Environment and Forest (MOEF), the Government of India and the UNCCD secretariat organized a workshop in

collaboration with Central Arid Zone Research Council of Agricultural Research (ICAR). The Government of Germany and the Global Mechanism (GM) co-sponsored the workshop. Experts from TPN2 member countries, regional and national institutes, NGOs and other agencies gathered to participate in the First TPN2 Workshop from 18-21 December 2001 at the International Crop Research Institute for Semi Arid Tropics (ICRISAT), Hyderabad, India.

The participants had intensive discussions on the overall framework of the TPN2, regional and country case studies on agroforestry, and soil conservation practices and techniques in dryland and/or degraded land areas. They also deliberated on the policy and research gaps in such areas, resource mobilization and partnership building and TPN2 information network development. The discussions were highlighted by power point presentations. The participants broke into four working groups on day 3 to discuss the following:

- Multiple benefits of agro forestry and soil conservation;
- Promotion of participatory approach and strengthening of the stakeholders' network;
- Resource mobilization and partnership building;
- Key areas and elements for refining and finalizing the regional study on dryland agroforestry and soil conservation.

In addition, participants made a field visit to the experimental sites of CRIDA and ICRISA and exchanged information and views on research activities undertaken on the inter-cropping techniques of agroforestry, crop/plant improvement, agro-meteorological impact, soil erosion assessment and conservation issues through agroforestry techniques.

National workshop for NAP: The first national workshop on the NAP to combat desertification was held in Bangalore from 18-19 February 2002. This was jointly organized by the Ministry of Environment and Forests, the Government of India and UNDP. Senior officials from various States participated, presenting the initiatives taken by them in combating desertification. The experiences shared by the States would be taken into consideration when formulating the action plan during the Tenth Five Year Plan.

NGOs under RIOD India were contacted regarding the field of activities taken up by them. It is proposed to organize a regional workshop for Government organizations and NGOs shortly to review and chalk out an action plan for implementation of the NAP.

Recently, the new National Water Policy 2002 was announced reiterating the importance of optimal use of water resource. In view of the vital importance of water for human and animal life, for maintaining ecological balance and for economic development activities of all kinds, and considering its increasing scarcity, the planning and management of this resource and its optimal, economic and equitable use has become a matter of utmost urgency. Concerns of the community need to be taken into account for water resource development and management. For water resource planning, traditional water conservation practices such as rainwater collection including rooftop rainwater collection would be further encouraged.

Tenth Five Year Plan Approach: The Planning Commission in its Approach Paper to the Tenth Five Year Plan has set certain monitorable targets for the next five years which are central to the attainment of the Tenth Plan objectives. These are:

- Reduction of poverty ratio by 5 percentage points by 2007 and by 15 percentage points by 2012;
- Providing gainful high-quality employment to the addition to the labour force over the Tenth Plan period;
- All children in school by 2003; all children to complete five years of schooling by 2007;
- Reduction of gender gaps in literacy and wage rates by at least 50% by 2007;
- Reduction in the decadal rate of population growth between 2001 and 2011 to 16.2%;
- Increase in literacy rate to 75% within the Plan period;
- Reduction of infant mortality rate (IMR) to 45 per 1000 live births by 2007 and to 28 by 2012;
- Reduction of maternal mortality rate (MMR) to 2 per 1000 live births by 2007 and to 1 by 2012;
- Increase in forest and tree cover to 25% by 2007 and 33% by 2012;
- All villages to have sustained access to safe drinking water within the Plan period;
- Cleaning of major polluted rivers by 2007 and other notified stretches by 2012.

To fulfil its obligations and commitments, the Government of India is launching a new scheme for combating desertification for the Tenth Five Year Plan. Under this scheme, financial assistance will be provided to the affected States specifically to address the problems of land degradation in the arid, semi-arid and sub-humid areas of the country.

INDONESIA

Several laws, guidelines and manuals regulating forest and land resources management including the implementation of forest rehabilitation are newly released and being prepared. These are MPR (People's Consultative Assembly), Presidential, Ministerial, and Directorate General decrees.

Communication and coordination forum(s) will be formed at national (policy), provincial (coordination), and district/city (implementation) levels to implement the Convention. At the village level, community/farmers' groups will be the principal actors. To participate more actively in the Convention, Indonesian experts from different institutions and various backgrounds are willing to contribute their expertise and experience in several UNCCD forums including the Committee on Science and Technology (CST).

Linkages and synergies with other environmental conventions are indicated by forest rehabilitation and plantation development, which is one of the current

five Indonesian forest priority programmes. Promotion of indigenous species in plantation development is closely related to both the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC) and is also included in the implementation programmes of the UNCCD.

Strategies and activities that have been undertaken in order to accommodate community participation in combating land degradation in Indonesia are the establishment of community communication forums (i.e. carrying out village discussion groups), empowerment of local institutions (i.e. farmers' group), development of human resources (i.e. motivators' and environmental facilitators' training), empowerment of optional economic sources (i.e. small business management and post-harvest processing training), and environmental awareness training.

Conservation techniques developed from indigenous knowledge and modern technology are simultaneously employed to accelerate forest and land rehabilitation programmes such as an upland/dryland management project in the form of an action plan in West Nusa Tenggara Province.

ISLAMIC REPUBLIC OF IRAN

The strategies and priorities established within the framework of sustainable development plans and/or policies

The Islamic Republic (IR) of Iran is located in south-west Asia with a land area of nearly 1,650,000 km². The country's population is about 65 million, of which more than 35.4% (about 23 million) live in rural areas where agriculture and animal husbandry is the main source of subsistence.

Eighty per cent of the total land area, where half the population resides, has an arid and semi-arid climate. Rapid population growth, inappropriate techniques in exploitation of water and soil resources, sensitivity of new geological formations to erosion, low average precipitation (less than 250 mm), spatiotemporal irregular distribution of precipitation, high evaporation rate (more than rainfall rate) and low biomass distribution have all caused severe erosion and a high potential for land degradation.

The particular climatic conditions of Iran have contributed to the formation of indigenous knowledge with 3,000 years of historical background. Iran is considered as one of the most active countries in combating desertification. In the last 40 years, it has provided appropriate political, social and policy-making bases for rehabilitation programmes and preventive measures through creating structural and legal capacities. In addition, Articles 45 and 50 of the Constitution, including the Environmental Conservation Act, the Forest and Range of Conservation Act, and Sectoral Policies on Environment in the Third Five-Year Socio-Economic Development Plan, are some of the existing legal capacities. In this connection, the Forest and Range Organization (FRO), Department of Environment (DOE), Forest and Range Research Institute, Desert Research Institute, Watershed Management Research Institute and relevant universities are among the structural capacities forged.

In the past, the FRO had formulated and implemented several projects for rehabilitation of degraded lands before the Convention was ratified; however, due to a lack of comprehensiveness and integrity little success had been gained. Therefore, the Convention has assisted Parties to:

- Promote the participatory approach in inter-sectoral cooperation;
- Create opportunities to increase regional and international bilateral cooperation;
- Exchange information, experience and technologies for combating desertification;
- Formulate indigenous knowledge; and
- Promote early warning systems and a desert database.

The IR of Iran, while incorporating the principles of the Convention in her Third National Five-Year Social and Economic Development Plan as well as in other sectoral programmes relating to institutions in the field of combating desertification after the Convention was ratified by Parliament, has simultaneously started the formulation of the NAP. The Third Five-Year Socio-Economic Development Plan (2000-2004), with emphasis on environmental protection and sustainable utilization of natural resources, has opened a new chapter in programmes to combat desertification and has set the following priorities:

- Formulation of the NAP;
- Active participation at international meetings;
- Launching TPN3 meeting on Rangeland Management and Sand Dune Fixation; and
- Defining macro-policies to combat desertification and the NAP by the National Committee to Combat Desertification (NCCD).

In addition to the above-mentioned activities, the FRO has carried out the following projects in line with the Convention:

- Sustainable Management of Land and Water Resources (SMLWR) project designed as pilot participatory programme with the aim of enabling local executive administrations to elaborate and implement participatory projects;
- Identification of critical and vulnerable areas to wind erosion, according to executive priorities;
- Balancing the number of livestock with rangelands production;
- Capacity project; and
- Replacement of suitable fuel for fuel wood.

The IR of Iran also initiated the formulation of the National Biodiversity Strategy and Action Plan (NBSAP), alongside the national action plan to combat desertification on a participatory basis so that both drafts are under examination by the experts in the fields of environment and desertification given the fact that land degradation plays a pivotal role in both programmes.

The institutional measures taken to implement the Convention

The IR of Iran, as one of the first countries to sign the UNCCD, completed the ratification process in 1996 and officially became a Party to the Convention. After this stage, the Government immediately undertook to establish the institutional framework and thematic working groups to strengthen further the participatory aspect of the NAP formulation.

The NCB has been established further to reinforce the NCCD which acts directly under the overall jurisdiction of the Minister of Jihad-e-Keshavarzi (Agriculture) as the chairman of the Committee. An Executive Committee (EC) is also formed to provide advice and technical guidance on substantive matters relating to combating desertification. The National Steering Committee (NSC), which comprises NCCD, NGOs, women's groups, local municipalities and the private sector, is undertaking the NAP formulation. This process is being supported by UNDP and the Economic and Social Commission for Asia and the Pacific (ESCAP) through the Desertification Control in Asia and the Pacific (DESCONAP) Programme Office (DPO) in Tehran. The FRO provides the NCB with necessary requirements such as communication and transportation facilities. The NFP to the UNCCD is also designated by the FRO and is accountable to the NSC and supported by a full-time secretariat.

The most important duty of the NCCD is to formulate macro-policies and executive strategies for the NAP. The most important measures taken by the committee are as follows:

- Integrating sustainable development principles with sectoral programmes;
- Rendering priority to preventive programmes;
- Allocating financial resources;
- Promoting public awareness and encouraging public participation;
- Amending existing laws and enacting required laws;
- Promoting new technologies for combating desertification, and
- Conducting family planning programmes in rural and nomadic communities.

In the meantime, in the draft version of the NAP special attention is given to the following characteristics:

- Long-term executive strategies;
- Ability to reform and adaptability in terms of time and place;
- Modification of policies and institutional arrangements;
- Application of early warning systems;
- Prevention of land degradation rather than rehabilitation of degraded lands;
- Participation of effective groups in combating desertification programmes especially NGOs and local communities.

In this study, the adjustment programming method has been used for the NAP formulation in which formulated sectoral programmes and macro-policies are assessed and adjusted accordingly.

Four strategies have been defined in the NBSAP as follows:

1. Promoting public awareness on biodiversity and public participation;
2. Formatting information and researching systems on biodiversity;
3. Sustainable use of biodiversity resources;
4. Integrated conservation of biodiversity.

In this programme, the conservation of biodiversity is studied at ecosystem, species and gene level, and the programmes proposed to include rehabilitation activities in degraded forest, rangeland and deserts ecosystems aimed at conservation of genetic resources verified by UNCCD, NAP to combat desertification as well as the sectoral policies of the FRO. These policies are also incorporated in the Third Five-Year Socio-Economic Development Plan of the IR of Iran.

Participatory process in support of the preparation
and implementation of the NAP

Over 1,700 experts in five specialized groups from both headquarters and provincial units have participated in this programme under the supervision of NSC and in the framework of strategies adopted by NCCD, in close cooperation with NCS and related executive committees. In addition, they have also benefited from the experiences and consultancy of academic institutions, NGOs, local communities and international specialized organizations in the preparation phase. The implementation process is evaluated as successful in term of involving and managing various groups in the field. In addition, several workshops were held to recognize and prioritize human factors contributing to desertification, as follows:

Ten national participatory workshops represented by the Rural Islamic Council, local experts and elites, NGOs, women NGOs and other volunteer groups. Fourteen provincial participatory workshops in desert provinces represented by representatives of the Rural Islamic Council, local experts, NGOs, local elites and volunteer user groups and so on.

The results obtained were subsequently analyzed and presented to the headquarters. Since women run nearly 25% of 255 registered NGOs in the field of natural resources and environment, their presence in this process has been very significant. The Constitution of the IR of Iran asserts the equity of men's and women's rights and there is no limit to women's participation in social activities from the point of view of religious principles as well.

Some of the measures taken to adjust and strengthen institutional arrangements are as follows:

- Provide facilities for establishing a desert database;
- Organize policy-making, programming and monitoring tasks at headquarters and assign the executive tasks to provincial offices;
- Merge the ministries of Agriculture and Jihad-e-Sazandegi in 2000; and
- Merge the Watershed Management Department with the FRO in 2001.

Since the number of NGOs has increased radically in the last two years, the Government has therefore incorporated the following priorities into the Third Five-Year Socio-Economic Development Plan:

- Reinforce and finance the formation of NGOs;
- Provide appropriate conditions for cooperatives and NGOs in the field of watershed management, water exploitation, environment and natural resources conservation; and
- Develop cooperatives and rural/nomadic NGOs, with the assistance of the Ministry of Cooperatives.

Apart from this, parts of the executive affairs of governmental institutions in the provinces have been entrusted to Islamic Councils, local communities and private sectors, showing the special attention of the Government to improving the subsistence of the rural population and promoting their participation in combating desertification programmes.

At international level, the linkage between the NAP and subregional and regional action programmes (SRAPs and RAPs) has been established through the DESCONAP Programme Office (DPO) and the Thematic Programme Network on Rangeland Management and Sand Dune Fixation (TPN3).

The Third Thematic Programme Network was launched in May 2001 in Yazd, IR of Iran, and its secretariat is located in Tehran. The goals of TPN3 include: to obtain, gather and exchange information, and capacity building for the re-use of sustainable systems of rangeland management and livestock production in the member countries through regional cooperation. The FRO has established a permanent secretariat for fulfilling the duties of the network, recruiting staff and also running a national and regional web site in order to facilitate the network obligations in cooperation with the other member states. A complete database is going to be established, covering the following areas:

Consultative process in support of formulation and implementation
of the NAP and partnership agreement with developed
countries and other interested entities

The FRO has participated in a number of regional and international events since 2000 as follows:

- Third Asian Forum on Combating Desertification in Bangkok, Thailand, 7-10 November 2000;
- Fourth Conference of the Parties to the UNCCD (COP 4), Bonn, Germany;
- Ad Hoc Working Group in Bonn, Germany, 19 March to 6 April 2001;
- The Launching Meeting of the Thematic Programme Network on Rangeland Management and Sand Dune Fixation (TPN3), Yazd, IR of Iran, 7-9 May 2001;
- Workshop on GIS and Database Management of Caspian Environment Programme, Baku, Azerbaijan, 30 April-5 May 2001;
- Preparatory Meeting for the Ministerial Meeting on Sustainable Investment in Rainfed Areas of West Asia and North Africa (WANA), Cairo, Egypt, 13-14 May 2001;

- Fourth Asian Forum on Combating Desertification, Ulan Bator, Mongolia, 21-25 June 2001;
- Ministerial Meeting on Opportunities for Sustainable Investment in Rainfed Areas of West Asia and North Africa (WANA), Rabat, Morocco, June 25-26, 2001
- Fifth Conference of the Parties to the UNCCD (COP 5), Geneva, Switzerland, 1-12 October 2001.

In addition, the FRO has conducted the following joint projects with international specialized organizations such as UNDP, the Food and Agriculture Organization of the United Nations (FAO) and GEF:

- Sustainable Management of Land and Water Resources (SMLWR) project;
- Carbon Sequestration Project; and
- Caspian Sea Environmental Programme (CEP).

Measures taken or planned within the framework of the NAP, including measures to improve the economic environment, to improve institutional organization, to improve knowledge of desertification and to monitor and assess the effects of drought

The activities so far taken include:

- Promotion of capacity-building at local and national levels through formulation of the NAP;
- Merger of Ministries of Agriculture and Jihad-e-Sazandegi;
- Amendments to present laws and enacting required rules;
- Merger of the Watershed Management Department of ex-ministry of Jihad-e-Sazandegi into the FRO;
- Expansion of the relevant training centre and universities;
- Development of applied research;
- Increasing provincial and local authorities managerial powers;
- Promotion of public awareness;
- Creation of local NGOs and CBOs;
- Entrusting part of executive activities to local communities;
- Expansion of education and health;
- Extension of television and radio channels at local and national levels;
- Implementation of Comprehensive Social Security Plan from 2002.

Nowadays, 2,500 research projects are conducted in the fields of natural resources and watershed management every year, the results of which are handed down to executive and training sectors.

In the last two decades, the rate of literacy has risen to 80% in which the proportion of female students at primary and secondary levels has increased to 48% and 45% respectively even in the most deprived regions; the numbers of school age children attending schools have reached the unprecedented record of 94% because of introducing compulsory education. In the same period, the proportion of female university students has risen 3.5 times and poverty has declined from 31% to 18%. The growth of these indicators has been improving

unabated in the last two years. At the moment, courses on desert disciplines are offered in eight state university centres and more than 10 private university centres as well as 11 applied and science university centres throughout the country.

Rural people's access to health care has increased by 90% through establishing 1,234 new Rural Health Centres, which has increased the life expectancy rate to 70 years. In this way, due to the access of 55% of the rural population to new contraceptive methods, the population growth rate has fallen to less than 1.4%.

Despite severe droughts in two recent years, the rate of agricultural production growth is estimated at 2.2%. In this period, the construction of 79 water supply development plants, 43 drainage and irrigation plants as well as 55 water canal plants has been executed, as a result of which over nine billion cubic metres of water have been added to the total volume of reserves, meaning that 280,000 hectares of new arable lands as well as 89,000 hectares of old agricultural lands can be irrigated.

In the area of renewable energy sources, two wind turbines and two solar power plants with a production capacity of 1.86 megawatts have been designed and constructed to utilize new forms of energy.

Financial allocations from national budgets in support of implementation as well as financial assistance and technical cooperation received and needed, identifying and prioritizing requirements

In the Five-Year Socio-Economic Development Plan, the Government of the IR of Iran has given a top priority to financial and bank facilities, for the development of agriculture and natural resources sectors, up to the ceiling of 25% of the total allocations, and has ratified tax exemption laws in this sector in order to promote investment in rural regions. In order to supply part of the budget required for carrying out major projects such as the construction of dams and agricultural and fishery projects, the Government has also offered billions of rials of bonds guaranteed by the Central Bank of the IR of Iran. Moreover, in order to absorb private sector investment, the Bureau of Sand Dune Fixation of the FRO has transferred 33,000 hectares of land parcels to land users on the basis of Para. 5 of Article 34. Also the technical office of low cover forests of the FRO has transferred 61,000 hectares of land parcels from Tuba Plan to applicants. The FRO has planned to transfer several hectares of fertile land parcels to university graduates from rural areas.

Within the last two years, the Government, after severe droughts in the country, has allocated and paid 7,810 billion rials (equal to 1 billion US dollars) in the form of bank facility to land users in compensation for the damage incurred.

The IR of Iran has also spent millions of dollars on the following programmes:

Formulation of NAP	US\$ 191,250
Direct Government investment in combating wind and water erosion	US\$ 7,7000,000
Launching TPN3 meeting	US\$ 330,500
SMLWR project	US\$ 4,689,000
Carbon sequestration activities	US\$ 1,093,800

On the other hand, the GM has allocated US\$ 100,000 to Iran's NAP which is under process at the moment. An amount of US\$ 350,000 has also been undertaken by GEF and UNDP for formulation of NBCAP. In addition, an amount of US\$ 85,000 has been allocated by the GM and the Government of Japan for launching the TPN3 meeting. So far, UNDP has made available US\$ 380,000 for the SMLWR project (not paid completely) and finally the GEF has set aside US\$ 746,939 for the carbon sequestration project (after finalizing documentation).

The current budget of the Bureau of Sand Dune Fixation of the FRO (2002-2003) shows an increase of 300% compared with the budget of the previous year (2001- 2002).

Review of the benchmarks and indicators utilized to measure progress and assessment thereof

The indicators and benchmarks vary in different organizations including the DOE. In order to coordinate desertification indicators and benchmarks, the FRO in consultation with the Natural Resources Faculty of Tehran University has prepared the draft proposal for a project. According to this project the criteria and indicators of desert, desertification, and the potential and velocity of desertification are determined on the basis of results obtained from domestic and foreign sources, taking into account the economic, social, biological and physical indicators.

JORDAN

Jordan is a country dominated by arid climate and fragile ecological systems. The country suffered drastically from a sudden increase in population due to political conditions that prevailed during the second half of the past century. These conditions have imparted their effects to natural resources and the environment. Due to various factors, most of the country is subjected to a one form or another of desertification.

Being aware of the dangers and threats of the phenomenon, the Government has initiated several actions to streamline its policies and strategies with the objectives and principles of sustainable development and combating desertification.

The national efforts to control degradation, although not in the context of recent definitions of desertification, had started before independence and continued in various forms by different institutions, both public and NGOs.

Development plans gave considerable attention to environmental issues. However, the most recent plans gave more emphasis to desertification as compared to earlier ones. The Third Five-Year Development plan emphasized the need to protect the agricultural environment from desertification, so that the area of arable land is maintained and the soil is protected from various degradation processes. The plan advocated the adoption and encouragement of popular participation in all phases of development projects and programmes.

Jordan has prepared both a National Environmental Strategy (NES) in 1991 and a National Environmental Action Programme (NEAP) in 1996. The NES aims to maintain long-term environmental balance and enhance the preparation of a development plan, while ensuring its continuity through economic planning. The NES prioritized the areas to be addressed to ensure sustaining the productivity of agricultural land, while protecting the environment.

The NEAP aims to guide Government environmental policy and investment decisions and to articulate programmes to implement such decisions.

A country study on biodiversity was prepared and efforts are under way to produce a biodiversity strategy and action plan. Equally, a National Agenda 21 is being finalized which includes a comprehensive chapter on desertification, which includes causes, actions to be taken, and proposed projects that would address these threats.

Jordan has prepared an Agricultural Policy Charter (APC) with the objective of management and utilization of available agricultural production factors in an economically efficient manner while ensuring sustainability. The APC stresses the need to tackle various factors hindering the application of effective production practices. In dryland farming areas, sufficient consideration is given to important practices and issues such as water harvesting, combating desertification, genetic resources conservation and preparation of legislation pertinent to desertification: the APC also outlines proposed measures to conserve and sustainably utilize low rainfall areas, forests and irrigated areas.

Jordan has also prepared a strategy for the utilization of water resources, which prioritizes the allocation of water resources between different sectors. The Government also prepared several policies regarding the uses of different types of water. Special attention was given to efficiency, optimal utilization and resource protection, and participation of the private sector in their management.

Following the adoption of the UNCCD, the Ministry of Agriculture, with the assistance of ESCWA, UNEP and FAO, prepared a NAP to combat desertification with six programme areas. These programme areas streamline with the principles of UNCCD as the participatory approach, poverty alleviation, empowerment of local community and efficient resources conservation and management. It recommended the establishment of a NCB to catalyze the

preparation, coordination and implementation of the NAP. It advocated joint efforts and coordinated activities, at the subregional and regional levels, with respect to combating desertification.

National institutions have also taken major steps towards the protection and conservation of resources. These efforts are reflected in the establishment of research plans and departments at public universities, with appropriate teaching and research agenda and advanced techniques to meet the nation's concerns regarding environmental degradation and the conservation of its resources. The rise of NGOs directly involved in combating desertification and the control of environmental degradation has also supported the national efforts.

The environment is managed by two institutions as the main focal points, which coordinate the efforts of several public and semi-public institutions. The two institutions are the Higher Council for Environment Protection (HCEP) and the General Corporation for Environment Protection (GCEP). HCEP, as an autonomous body, has a wide range of responsibilities. With respect to soil resources, its duty is to supervise and monitor sources of pollution as well as soil erosion and desertification, in order to undertake necessary rectifying actions. The GCEP has an Environmental Protection Fund that can be invested in different aspects of environmental conservation and management. It has a number of relevant specialized committees, one of which is the National Committee on Desertification.

The GCEP is the lead national institution with respect to the UNCCD and is concurrently acting as the NCB. The core of the work on desertification and recurrent activities are handled by the Nature Conservation and Land Protection Directorate (NCLP). Within this Directorate, the Division of Land Protection (LP) shoulders most of the responsibilities pertinent to desertification. The LP is giving priority to the collection and consolidation of national experience in combating desertification.

The National Committee for Combating Desertification has determined areas for action. However its work plan is constrained by the limited financial resources and trained human resources. The LP has limited staff, facilities, and funds and would greatly benefit from assistance to upgrade its present status and improve performance.

The NCB has limited information system capacities and no database on desertification exists. Several national institutions have relevant databases, which can form the starting point for the establishment of a national database on desertification.

The Kingdom has a number of well-organized NGOs actively involved in programmes and activities dealing with environment, nature conservation and combating desertification. Their activities are well focused but suffer from a lack of adequate funds.

Jordan has issued several laws directly addressing environmental issues (Environmental Law No. 12) and an agricultural law addressing resources and their protection (Agricultural Law No. 20, year 2000). In addition, several

strategies including the strategy for the protection of environment, water strategy, Agricultural Policy Charter, different water policies, NAP to combat desertification, Action Environmental Plan, Agenda 21 Action plan (under production) and the Action Plan to Conserve Biodiversity (under preparation).

Efforts to conserve and combat desertification are assumed by the Ministry of Agriculture, GCEP, and other Government institutions through awareness-raising initiatives and promoting public participation. In addition to the vital role undertaken by NGOs who are taking the lead in this respect, environmental education is gaining momentum through efforts of the Ministry of Education; the media and the universities produce special documentary programmes.

Regional and international organizations and developed countries have provided technical and financial assistance towards resources conservation and combating desertification. Coordination of international efforts is carried out through the Ministry of Planning while the coordination of national efforts is carried out through GCEP. Both the international and national coordination mechanisms need further improvement and enhancement.

Several relevant projects are either ongoing, or have been implemented. However, a comprehensive review of these projects to assess integration and harmonization efforts and relevance to the UNCCD has not been done. The Government has also not determined specific mechanisms to ensure funding and resource mobilization strategies for future projects and programmes that can be generated by reformulation of the NAP.

Also, the formulation of practical indicators to monitor the implementation of the UNCCD has not been initiated. However, the scene is rich with relevant issues, strategies, policies, country studies, action plans, including Agenda 21, and execution of a wide range of projects covering different aspects of desertification in particular and environmental protection and resource management in general, in addition to institutional capacity-building which can be employed to achieve this goal.

KAZAKHSTAN

The Republic of Kazakhstan is the largest country of the Central Asian region; its total area amounts to 2.7 million square kilometres. Almost the whole territory belongs to a dry zone. Zonal peculiarities of the republic are determined by the variety of plain sub-areas (10) and mountain zones (9), and by the existence of peculiar types of desertification processes. An unusual process of mass land ploughing that took place in 1954-1960 brought the emergence of a specific Kazakhstani-steppe type of desertification - loss of humus and erosion of steppe soils intensifying drought phenomena and hot winds. At present, according to different sources, from 7 to 10 million ha of arable lands have been converted into fallow lands due to low productivity. Peculiarities of environmental situation and desertification in Kazakhstan, appearing in the forms of anthropogenic desertification as radiation and

chemical pollution in the area comprising 6% of the whole territory of Kazakhstan, are also stipulated by the impact of space and military grounds.

The reasons for the present desertification process in Kazakhstan are determined by natural conditions and peculiarities of land, water and forest resources. The landscapes of the republic are characterized by low resistance to the anthropogenic impact. A wide range of climate factors in the long-term period are an additional impulse to the desertification process. Anthropogenic impacts of moderate degree do not generate desertification; degradation of the environment takes place when it is unable to rehabilitate itself. The active impact of man's activity upon the environment leads to disturbance of environmental balance, land damage, exhaustion and reduction of its productivity and other negative consequences that lead us to believe the anthropogenic factor to be the main cause of desertification.

Two thirds of the territory of Kazakhstan is affected by different degrees of desertification. The total area of the degraded lands amounts to 179.9 million hectares or 66% of the national territory (42% of the territory in the subregion). Among the main causes of desertification the following are marked out: agricultural activity (17 million ha, loss of humus assessed as 1.2 billion tons), overgrazing (10 million ha), irrational irrigation (1 million ha), forest fires (0.3 million ha in 1997-2001), oil pollution (approx. 0.2 million ha), and other causes.

The state and usage of lands of the Aral sea region, the area of environmental disaster with a territory of 639,550 square kilometres and the number of the population amounting to 1.2 million, arouse particular anxiety. The sea area has reduced by nearly two times, thus revealing about 2.6 million hectares of the bottom, and losing about 60% of its volume. According to satellite photography, the salt and dusty winds blowing in the Aral sea region extend to hundreds of kilometres and the area of their precipitate amounts to 25 million ha.

According to the preliminary assessment, the damage of degradation in Kazakhstan makes up US\$ 963.2 million per year. Loss from erosion of arable lands amounts to US\$ 779 million. Second salinization, swamping and other causes accounts for loss in income of more than \$ 375 million. Annual loss of humus accounts for 2.5 billion US dollars.

By the beginning of the year 2000, about 10.3 million ha of low-productive lands had been withdrawn from crop rotation and lay fallow. The restoration of fallow lands without melioration will take no less than 20-30 years.

The irrigated lands of 2.3 million ha or 50% of lands of southern Kazakhstan also need to be reclaimed due to salinization (25%), loss of fertility and pollution by toxic wastes. Irrigation erosion is recorded in the territory of 1.8 million ha. The situation within the 10 years of independence did not improve.

2.5 million ha of agricultural lands within the region of the Semipalatinsk testing area underwent radioactive contamination. The area of petroleum production of the Caspian Sea region is also damaged - 4.0 million ha.

The acute crisis of the rural power supply promotes the felling of forests, saxauls and protection belts.

Beginning from 1991, after gaining the State's independence and carrying out land reformations in the republic, the area of agricultural lands reduced from 220.7 million ha to 106.7 million ha. About 83.0 million ha have been transferred into stock lands, 10.2 million ha into forestlands, and 16 million ha into lands for pasture use.

With the reformation of *sovkhoses* and *kolkhozes* and the privatization process, more than 97 thousand agricultural farms were established by 2000. Environmental assessment of the land state became complicated. Desertification and its tendencies within the different forms of managing will require holding a new kind of inventory and management. Annual desertification monitoring based on the uniform assessment criterion is complicated due to the lack of personal environmental responsibility and extensive methods of nature use.

According to the data of the Republic of Kazakhstan (RK) Agency on Land Management, the area of trampled pastures increased from 14.8 million ha in 1990 to 26.0 million ha in 1999; 25 million ha are affected by erosion. During the last 10 years there has been a tendency of continual land degradation because of non-regulated grazing, and a reduction in watering places and in supervision of land legislation.

Different desertification processes in Kazakhstan stipulate different ways of solving degradation problems. But as a conceptual basis of desertification combat a uniform strategy for all the world regions was adopted, that is, correspondence to the UNCCD, correspondence to the objectives of sustainable development - Agenda 21, and ensuring environmental and food safety, maintenance of the main principles of environment and public health.

To implement the commitments within the UNCCD ratified by the Republic of Kazakhstan (RK Law No. 149-1 dated 7 July 1997), the NAP to combat desertification is developed for 2002-2011. This document complies with the goals and tasks of the Strategy "Kazakhstan 2030", legislation of the RK, and is the guideline for combating the main causes of desertification of an environmental resource character and eliminating its consequences. It also distinguishes development trends of other aspects in state and public life, determining perspectives of the country's sustainable development.

At present the NAP and Action Plan have been approved by the Ministry of Natural Resources and Environmental Protection of the RK (31 January 2002) and sent for consideration to the interested ministries. The Action Plan for implementing the NAP includes 11 sections, namely measures aimed at mitigating desertification effects, and conserving and rehabilitating pasture grasses and forests. As for the social and economic aspects of nature conservation and desertification combat, the activities are aimed at combating poverty, increasing incomes and employment rate of the population, agricultural sustainable development in terms of market economy, social and economic aspects in combating desertification, integration of programmes into

complex development plans (Kazakhstani Agenda 21). The section on institutional frameworks, scientific and informational support includes: creation of interdepartmental commission and centre to combat desertification and scientific support. The section on preventive and rehabilitation activities involves projects for creating desertification monitoring systems, integrated into GIS, inventory and environmental zoning, as well as re-cultivation of lands affected by desertification.

Strategic trends to combat desertification and drought are integrated parts of the extended national sustainable development policy of the Republic of Kazakhstan stated in Strategy 2030.

At present, measures to combat desertification are constituents of a number of laws and national and regional documents developed and partially approved in recent years. Among them the Law on Land, Environmental Law, Law on Specially Protected Territories, Tax Code of the RK and Conception of regional use and protection of land until 2010.

It should be noted that unlike the other environmental treaties, the UNCCD is called to solve not only environmental problems but also social and economic ones including poverty combat, conservation of health and migration of the population. Therefore the main social, economic and political aspects of conserving natural resources and combating desertification are highlighted in the programme. The programme's objective is combating desertification as one of the prerequisites for sustainable development of the country, increasing living standards by preventing land degradation, raising its productivity, and ensuring food safety and political stability with a compulsory condition of conserving biological diversity and its renewal ability.

A number of measures are being carried out within the NAP implementation:

- The uniform system of environmental bodies under the aegis of MNREP is formed.
- The Government of RK and UNDP developed "The frameworks of cooperation of sustainable development for 2000-2004" and worked out the Document of Programme Support (DPP) which reflects the succession of cooperation frameworks with the closing of the programme "Introduction of strategic plan for 1998-2000 - Ecology and Natural Resources". The new programme "Institutional Strengthening for Sustainable Development" for 2001-2004 (MNREP -UNDP PIS/SD) is adopted, one of the goals of which being "Analysis, assessment and support of the procedures on implementation of international environmental conventions". DPP, aiming at supporting the Government of Kazakhstan in getting over the barriers while implementing international conventions, identified the indicators for progress assessment in any field.
- Improvement of environmental legislation is being carried out. In 2001, five laws and 51 decrees of the Government relating to the environment were adopted. Three more environmental conventions were ratified.
- Management structure for nature use is being improved with the tendency of isolating the State control over nature protection from the functions of using natural resources for economic purposes.

- A number of programmes and projects have been prepared which envision profound inventory and rehabilitation of arable lands, damaged pasture and forest systems of the republic. However due to the difficult financial situation in the country these programmes have not been adopted. At the same time some of the components were included in the State development plans and carried out at the local level and also reflected in certain investment projects.
- A database on the regional projects of Central Asia has been created.
- A special standard of state report IEA (Investments for environmental activities) was introduced in order to regulate reception of the information on project status.
- Environmental zoning has been carried out in the Caspian and Aral Sea regions.
- Cooperation with ministries and agencies and local authorities aimed at identification and inclusion of environmental convention priorities into industrial and territorial development plans set a basis for inter-agency interaction and enhanced efficiency of used financial, institutional and human resources.
- In accordance with the Law of the Republic of Kazakhstan on Environmental Protection, sources of financing for the struggle against desertification, for biodiversity conservation and for other environmental activities have been identified.
- Preparation of the Section "Land Degradation" for the draft Central Asian Regional Environmental Action Plan (CAREAP).
- The RK Agency of Land Resources Management annually develops and submits to the Government the State report "About the Status and Use of Lands in the Republic of Kazakhstan" which includes the description of available land characteristics and analysis of its qualitative status and use.
- Preparation of the concept for forestry, fishery, hunting and specially protected areas development. The document is currently under consideration by the Government.
- The Government has passed a resolution concerning the change of belt pine forests' status to "specially important forest tracts".
- The payment for timber and wood laying-in has been considerably (6-8 times) increased.
- A Governmental resolution dated 10 November 2000 approved the concept of development and distribution of specially protected territories of the Republic of Kazakhstan until 2030.
- In addition to the existing State reserved area in the northern region of the Caspian sea, in 2001 four more areas were identified totalling in 4.4 million ha: Kenderly-Kayasanskaya, Arysskaya and Karaktausskaya, Zhusandalinskaya. These areas are located in regions which are mostly exposed to drought and pasture ecosystem degradation.
- Activities have been started on a feasibility study for Ermentaussky Reserve and Charynsky and Kolsayskiye Lakes National Parks.
- The list of national natural sites and reserves has been reapproved; this includes 57 zoological, botanic and complex reserves and 26 natural sites.
- In 2000, the Katon-Karagaisky National Park (mountain-forest ecosystems) was established with a total area of 653.5 thousand ha.

- Preparation of a feasibility study for Zhungar National Park, which is currently being considered by the Government (steppe and mountain-forest ecosystems).
- Approval of the programme for planting of greenery in Astana city for 2002-2010.
- Protective afforestation of pasture lands - 0.5 thousand hectares.
- Reafforestation of forest lands, including agricultural lands - 17.9 thousand hectares.
- Continued process for forests protective zone in Astana city; total area of planted trees - 8,200 hectares, including 3,200 hectares in the past two years.
- UNDP/UNSO project "Management of pasture ecosystems" implemented in the Aral region of Kyzyl-Orda oblast.
- With the support of GEF/World Bank and GM, the project "Management of Dry Lands" has been launched in the Shetsky region of Karaganda oblast.
- Establishment of pilot areas on the Bogen village lands, data received on seasonal trends in pastures with an area of 15,000 hectares, GIS database created on pasture ecosystem management. The school territory has been freed from a sand dune, which was fixed with mechanical protective belts on an area of three hectares. In the area of mechanical protection, saxaul has been sowed.
- For the purposes of environmental programmes and projects monitoring in Kazakhstan there have been developed "Rules for monitoring environmental programmes, projects and activities".
- Collection and preliminary systematization of the graphical material for GIS layers for Reference Informational System (RIS). First variant of Informational System for Almaty oblast drafted with the use of GIS technologies.
- Beginning of activities for the network of interconnected environmental information systems.
- Development and approval of the State programme "Drinking Water" focusing on population water supply and pasture irrigation.
- Development of "Concept for Environmental Propaganda and Education in the Republic of Kazakhstan".
- In October 2000 Kazakhstan ratified the Aarhus Convention.
- In September 2000 the second Ecoforum of RK NGOs was held timed to the Conference of Finance, Economy and Environmental Ministers that was held in Almaty in October 2000.
- The Programme of Ecoforum of RK NGOs direction "Combating desertification and biodiversity conservation" (CDBC) was adopted. This direction of the Ecoforum unites all the interested public organizations (non-profit organizations) of the country, both registered and registering initiative groups.
- Governmental resolution "About the process of RK's Sustainable Development database establishment on the UN website" (No. 1295 dated 8 October 2001) approved. Formation of electronic database.
- Established and developed electronic information network which includes mass media, 100 NGOs, parliament, RK ministries and agencies, oblast environmental departments - having in total over 200 users.

- Workshops, round tables, press conferences with NGO participation are held on a regular basis, which are devoted to the most important environmental problems - climate change, sustainable development, Caspian Environmental Programme, access to environmental information: results presented in the programme document "Framework of cooperation between RK Government and UNDP on sustainable development for 2000-2004".
- Electronic newspaper "Kazakhstan's Eco-Pravda" is issued distributing the information between CA and CIS NGOs.
- Currently in Kazakhstan there are about 300 environmental NGOs. Some of them are RIOD network members.
- Publication of the first manual in Kazakh and Russian for the herders of the Aral region containing practical assessment of desert pastures and their use. (Within the UNDP/UNSO project "Pastures. Management of pasture systems".)
- Established contacts with universities in Germany and Israel concerning training for Kazakhstan's experts in the area of combating desertification.
- The programme of development and rendering humanitarian assistance to the Aral Sea region (KAZ/98/008), financed jointly by UNDP, Capacity-21 Trust Fund, UNSO and International Fund for Aral Sea Salvation (IFASS), united the previous initiatives. In addition to activities on environmental issues in the areas of irrigation, land development, desertification, forestry and fishery management, the Aral Programme will also address the problem of drinking water supply, employment, health, and rise of sanitary conditions and living standard. The project will be integrated into the CA Regional Programme.
- The Government has ratified the agreement about the loan for the project realization "Regulation of the Syr-Darya river channel and conservation of the northern region of the Aral Sea (stage 1)" between the World Bank and Kazakhstan. The project was launched in 2001.
- Currently the following joint projects are being developed: "Modelling desertification processes" (NATO, Uzbekistan, Turkmenistan, Kazakhstan, "Combating desertification in the Aral sea region" (Germany, Kazakhstan); the project for combating desertification and poverty in the Balkhash region is under way (Germany), "Experience exchange in the area of combating desertification on the local level" (Kazakhstan, GM), "Regional technical assistance to the NAPCD implementation" (ADB, Kazakhstan). In addition, a number of environmental projects in Kazakhstan are entering different stages of implementation.
- Beginning from 2000, Kazakhstan has been taking an active part in the preparation of the SRAP to combat desertification in the Aral Sea basin (several consultative meetings, received support of international donors).
- The existing Intergovernmental Commission on Sustainable Development and CA Regional Environmental Centre in Almaty, established in accordance with the decision of CA countries, are good examples of regional cooperation.

KUWAIT

The National Committee to Combat Desertification in the Environment Public Authority (EPA) of the State of Kuwait has prepared this report upon the request of the UNCCD. This report comprises nine items concerning the preparation of a NAP to combat desertification in the State of Kuwait.

The work of initiating the strategies and plans concerning the combat of desertification in the State of Kuwait began in the 1970s. Concern began to increase when environmental matters were introduced to all fields and different levels as well as when the protection of the environment against degradation, especially the desert environment, came to the forefront of State concerns.

The entities concerned about combating desertification in the State began to adopt the plans and strategies which give priority to agricultural affairs, development of water resources, preserving natural resources and rehabilitation of degraded areas. Also the concerned parties looked after the qualification and training of staff in this concern.

These plans are included within the plans or policies of the State for sustainable development and go hand in hand in general understanding with the general pattern of the national work programme suggested for the State of Kuwait. Also the environmental strategy of Kuwait comes at the forefront of these strategies.

Since its initiation in 1995, the Environment Public Authority (EPA) has endeavoured to develop its environmental works and enhance its role in the protection of the environment in conjunction with internal and external participation as well as coordination with the different local institutions to execute the international conventions regarding the environment such as the UNCCD.

The EPA installed the National Committee to Combat Desertification which is considered as the national coordinating body (NCB). The major concern and specialization of this entity is to follow up the execution of the UNCCD as well as the preparation of a NAP to combat desertification in Kuwait.

This committee is formed from a group of experts and specialists in agriculture, geography, climate, geology and so on. Women are participating in the committee, performing an active and effective role in it.

The members of the committee represent several governmental research and executional sectors in addition to NGOs and those from the private sector who are concerned about combating desertification.

All these parties are working depending on cooperation and coordination to assure the participation of these sectors in the follow-up and execution of the UNCCD.

Environmental awareness is considered one of the concerns of this committee as well as of the State of Kuwait itself, represented by its different

establishments such as the EPA. This is represented in the activities and guided programmes for all categories and sectors of society. Also the National Committee to Combat Desertification is participating in the support of these activities by initiating an annual plan comprising lectures and awareness brochures to ensure the preservation of the desert environment and its natural resources.

In its support for the preparation and execution of the NAP, the committee from time to time works on the publishing of articles in the daily newspapers about the importance and the stages of preparing this programme as well as discussing the role of the authorities and public in this programme.

Also the National Committee to Combat Desertification endeavours to utilize recent available means of communication and information such as the Internet to support the preparation of the NAP, especially after the announcement of the committee within the site of the EPA on the Internet.

Regarding the available consultations by local, regional and international organizations, the committee has utilized many of these consultations and will work to ask for help in completing the preparation of this programme.

The National Committee to Combat Desertification is taking the first stages towards the preparation of the NAP and has begun reviewing and evaluating previous experiments in the field of desertification prevention.

It appears that the survey, evaluation and monitoring of the status of desertification is being executed by separate operational mechanisms while there is no measure to realize a compromise between these mechanisms.

Moreover, there is no planned national methodology to record the impact indicators about the state of the desert environment. There are, anyway, several scientific studies using international indicators to evaluate the degree of degradation in the lands.

The National Committee to Combat Desertification has no separate budget but in this concern it depends, for procuring its budget and other financial resources, on the budget of the EPA in addition to the limited financial support for some activities submitted by several parties, organizations and external companies.

KYRGYZSTAN

Introduction. Conceptual basis of the UNCCD implementation in Kyrgyzstan

Currently, desertification in mountainous Kyrgyzstan is due to:

- Water erosion as a result of irrigation and precipitation on slope lands, salinization and swamping in lowlands;
- Overgrazing of pastures, overgrowing and forest fires on former distant pastures;

- Felling of forests for fuel and as a consequence, wind erosion, landslides, and decrease of water potential of upper watershed.

The main reasons for these phenomena are:

- Economic inconsistency in accepting sufficient adequate measures, not absence of awareness of the population and governmental bodies;
- More measures are taken at governmental level, but now there is a sharp necessity to find ways of including bottom-level participants.

Despite existence of the general recommendations on Convention implementation, each country should find the shorter way. For example, in Kyrgyzstan, which is carrying out real management decentralization, and creating accepted institutes of private property on land and local self-administration, management through State authorities becomes less effective.

It will be more effective to start pilot activities through self-administration bodies, village committees only in places where desertification really occurs, and from their example to lead up Convention ideas to the people.

Pilot projects should start with an example of a concrete administrative unit or area, for example, river basin, mountain village.

It is necessary to turn from local problems and experience of their solution to more State-scale organizational and legislative decisions and recommendations. Many efforts and funds would be spent and only a little is gained for a concrete problem in places if they begin from top level, from the Ministries and capital NGOs.

Therefore, administration bodies and non-governmental organizations in the Kyrgyz Republic show political consent in issues of Convention implementation and consider that the main priorities in this area are:

- Strengthening institutes of public natural resources management;
- Increase of economic opportunities of the rural population for combating desertification (poverty alleviation).

The NAP aims at a policy on combating desertification implementation, and also so that orientation of donor agencies in the direction of activities support in Kyrgyzstan is developed on these principles.

The NAP rules are conformable with the formulation of a sustainable development concept for Kyrgyzstan, raised at the UNDP-Ministry of Ecology workshop in March 2002, on the preparation of the National Report to Rio+10.

Sustainable development for Kyrgyzstan is a choice of directions of economic development based on use of:

- Unique natural gifts of highland-lowland ecosystems (water-power resources, recreation parks, fantastic landscapes, alpine meadows, development of yak breeding, beekeeping, phytobusiness etc.);

- Geostrategic situation and achieved geopolitical image (doctrine of Silk Road, World Trade Organization (WTO) membership, democracy leader, continuous research and initiatives);
- Old-Kyrgyz mentality and modern intellectual potential (three millennial history and wisdom of ancestors, traditional hospitality, first-rate persons and information technologies).

National plans and strategies existing in other social and economic fields

The State Programme on Land for the period until 2005 provides the following:

- Development of full land databank;
- Development and introduction of land resources management system.

National Environment Action Plan (NEAP), approved in 1996. NEAP would be updated with TACIS support.

Araket National Programme on Poverty Reduction.

Combating poverty is a long-term strategic task, on which the success of reforms and socio-economic development of the country depends according to the National Strategy on Poverty Reduction.

The Forest State Programme for the period up to 2005 is aimed at increasing the forest plants percentage from 4.2% to 7-10%.

Comprehensive Development Framework (CDF) for Kyrgyz Republic for the period up to 2010.

CDF implementation provides achievement of the following main indicators:

- Doubling of GDP by 2010 compared to 1998;
- Threefold decrease in poverty level; the country by level not less than 30%;
- Decrease in annual rate of inflation to 3-5%;
- Overcoming of deficiency of the State budget.

The legislative and institutional measures taken to implement the Convention

The existing legislation, under the legal framework of which it is necessary to implement the UNCCD, is as follows:

- Law of Kyrgyz Republic on Enacting of the Land Code of the Kyrgyz Republic dated 2 June 1999, No. 46
- Resolution of Government of the Kyrgyz Republic on Agricultural Lands Monitoring of the Kyrgyz Republic dated 1 March 1999, No. 115
- Provision on Agricultural Lands Monitoring of the Kyrgyz Republic
- Forest Code of the Kyrgyz Republic dated 8 July 1999, No. 66
- Law of Kyrgyz Republic on Peasant (individual) Farms dated 3 June 1999, No.

- Law of Kyrgyz Republic on Local Self-administration and Local State Administration in the Kyrgyz Republic dated 19 April 1991, No. 437-XII
- Law of Kyrgyz Republic on Accession of the Kyrgyz Republic to the Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa dated 21 July 1999
- Law of Kyrgyz Republic on Environment Protection dated 16 June 1999, No. 53
- Law of Kyrgyz Republic on Water Users' Associations dated 15 March 2002, No. 35

The Coordinating Board (CB) of the UNCCD in Kyrgyzstan was established under the Ministry of Agriculture, Water Resources and Processing Industry; the structure of the CB, including the representatives of the Ministries and non-governmental organizations was determined at the First National Forum, 2-3 November 1999.

The functions of the National Centre on UNCCD implementation in Kyrgyzstan (NCCD) (executive body) were given to the Kyrgyz Irrigation Research Institute of the Ministry of Agriculture, Water Resources and Processing Industry of the Kyrgyz Republic for coordination of activities on combating desertification in the country.

The proposal on establishment of the multiple-discipline centre for desertification and complex melioration issues is discussed on the basis of the Irrigation Institute.

The country's need is donor support for the national centre under Irrigation Institute for financial opportunity to implement current activities. The unstable local budget does not allow necessary staff to be maintained and communication services to be paid for.

The participatory process in support of the preparation
and implementation of the NAP

The definition of the representatives from various social and institutional categories was made under the principle of affiliation to various issues.

The main executors of the NAP are farmers; the executors include farms and peasant farms, agricultural cooperatives, NGOs, women's and youth organizations, local self-administration bodies.

The administration at the level of national and regional centres has become inconvenient in view of the introduction of privately owned land and institutes of local self-administration, and the complexity of transport connection due to territorial dissociation by mountain ridges. Therefore, a national information strategy for operative communication through e-mail and the Internet, both between separate areas of the country, and with the external world, is being developed.

The Irrigation Institute-NCCD has developed and supports the www.water.kg web site, which the Coordinating Body of the UNCCD planned to use as an information centre on UNCCD implementation under support of USAID.

At present all *rayon* and *oblast* structures of the Department of Water Resources are equipped with computers under the Irrigation Systems Rehabilitation Project (the World Bank). The Irrigation Institute will connect to e-mail and the Internet for establishment of operative communication between the Centre and the rest of the country with the assistance of the FAO.

The following three pilot projects on extension of participation using information technologies are being developed:

- Information system of agricultural producers support;
- Connection of Kyrgyz rural periphery to information network for improvement of economic base, education and culture;
- Increase of rural population's access to agro-ecological information through mass media.

The consultative process in support of the preparation and implementation of the NAP and the partnership agreement with developed country partners and other interested entities

The consultative process on UNCCD implementation is going on in Kyrgyzstan after approval of the NAP on 8 December 2000.

The work on inclusion of elements and priorities of NAP/UNCCD into other national and subregional sustainable development plans is organized. The UNCCD participates and promotes UNCCD ideas in:

- Development of strategy and action plan on development of mountain territories (ADB project);
- Coordinating Board under the Prime Minister on development of tourism in Kyrgyzstan (initiative of GTZ);
- Working group of the Ministry of Ecology on development of National report on Sustainable Development to Rio + 10 (with support of UNDP);
- Development of the Regional Environment Action Plan in CA, Land Degradation section (UNEP, UNDP, ADB);
- Work of the Interstate Commission on Sustainable Development of Central Asia.

Three experts from Kyrgyzstan took part in the GTZ/ZEL training course in Tashkent, Samarkand, in 2001 on development of pilot projects.

The Kyrgyz Republic requires financial support from the donors for commencement of such pilot projects, which will promote improvement of the economic situation in rural areas, where basic desertification processes are going on. People can use part of this income for ecological measures such as forest conservation, improvement of pastures, irrigation methods only with such aid.

As to motivation of the rural inhabitants to investment in ecological technologies, the introduction of institutes of local self-administration and private property on land has increased responsibility of the population for

the quality of the environment they live in. Lack of financial and technical opportunities can be the only limiting factor. Such conclusions are received also for development of the National Report of Kyrgyzstan to Rio + 10, the Subregional Environment Action Plan of CA, in which NCCD participated actively.

With assistance from the UNCCD secretariat and the GM, and also on the basis of the partnership agreement between the GM, ADB, GTZ and CIDA, the below-mentioned requests are being carried out:

From the GM is requested financial support for three pilot projects for the sustainable management of transboundary ecosystems in the CA, and information support of agricultural products producers, including for marketing and selling the agricultural products.

A negotiation process is going on between the Ministry of Agriculture, Water Economy and Process Industries of the Kyrgyz Republic and the Japanese partner about the opening of a project on village marketing with a budget of US\$ 599,000. The support of the GM at this stage would be very important. The pilot project is offered in the framework of CDF/NSPE.

Consultation with GTZ/BMZ: The agreed decision that Kyrgyzstan would start from the project on mountain ecosystem conservation and ecotourism, connected with the announcement of year 2001 as Year of Tourism and year 2002 as Year of Mountains, meeting the concept of restoration of ancient the Silk Road and the future important role of tourism for the national economy, was accepted at the meeting of the Ministers of Central Asia in 2001 (under GTZ support) on discussion of the SRAP.

The development of a project on ecotourism was the subject of study for the Kyrgyz group at the GTZ/ZEL seminar in Tashkent.

On behalf of Mr. N. Tanaev, First Vice Prime-Minister, the prepared project proposal is submitted to Ms. Uschi Eid, Parliamentary State Secretary with copy to the UNCCD secretariat, Mr. G. Winkler and to the local GTZ Office in Kyrgyzstan. The project proposal on ecotourism development was also given by the Kyrgyz delegation to the representatives of Switzerland, Finland and Japan at COP 4.

Consultation with CIDA: The Central Asian CIDA office in Almaty has opened a number of grant programmes on local initiatives and climate change.

The project proposal on improvement of mountain pastures use is prepared and submitted to the CIDA in connection with the important problem overgrowing of distant unused pastures and sudden forest fires on mountain slopes.

Consultation with ESCAP, UNEP, GEF: ESCAP (Prof. Pak Sum Low) renders consultative support in preparation and facilitation, together with UNEP and GEF, of the Subregional Project on Biodiversity Conservation and Interstate Use of Pasture-forest Resources for five Central Asia countries at the request of the NCCD in Kyrgyzstan. All five CA National Coordinators have demonstrated interest in the present project with the purpose of restoration

of economic cooperation throughout this area, which was urgent during the Soviet Union period.

Consultation with UNDP/GEF: The GEF Small Grants Programme (up to US\$ 50,000) accessible for NGOs and local communities, was opened at the local UNDP Office in Bishkek in the beginning of 2002.

Three applications from the list of pilot projects of NAP/CCD for participation in the first round of competition have been sent.

There would also be work on preparation of the applications for the second round up to August 2002.

Consultation with the World Bank: The World Bank projects were developed under Programme 6 on Integrated Land and Water Resources Management in Upper Watershed of the Aral sea basin, and also under Programmes 3.1.A. on Assessment and Water Quality Management and 3.1.B. on Improvement of Quality of Agricultural Water under management of the World Bank in 1995-1997.

The Irrigation Institute was executor of these projects from Kyrgyzstan.

A World Bank mission led by Mr. Denis Tray visited Kyrgyzstan in order to determine the reasons for poverty of the country's population, including the Fergana valley and the Aral Sea basin.

The National Coordinator has addressed the local World Bank office with a proposal to consider an opportunity to start these projects for the solution of some problems of poverty connected with desertification.

Consultation with USAID: The agreement on partnership between the NCCD and USAID Natural Resources Management Project in five Central Asia countries (NRMP) has been made.

Launching of the www.water.kg web site on water resources is being carried out due to support from USAID and Mr. J. O'Keefe, Ambassador of the United States of America in Kyrgyzstan. This web site could also perform the function of information centre of the coordinating body on UNCCD implementation in Kyrgyzstan.

Measures taken or planned within the framework of the NAP

The following completed, ongoing and planned projects refer to Government measures connected with solution of socio-economic problems, including desertification:

On a credit basis:

- Irrigation Systems Rehabilitation Project is aimed to increase agricultural production and irrigation infrastructure rehabilitation (International Development Association - US\$ 35 million);

- On-farm Irrigation Project is aimed to increase crop production through equitable and sustainable water distribution (International Development Association - US\$ 20 million);
- Agricultural Area Development Project (Chui oblast) includes improvement of meliorative condition of lands (ADB - US\$ 36 million);
- Sheep Development Project is aimed to increase profitability and efficiency of sheep breeding and wool production, and to increase efficiency of natural pasture use and conservation (International Development Association - US\$ 11.58 million, IFAD - 3.5 million);
- Agricultural Support Services Project (International Development Association - US\$ 14.98 million, IFAD - US\$ 7.9 million);
- Rural Water Supply and Sanitation Project is aimed to restore and improve water supply and sanitary systems in the settlements and small towns in Issyk-Kul, Naryn and Talas oblasts (International Development Association - US\$ 15 million);
- Project on Infrastructure Services at Settlements Level is aimed at institutional strengthening and rehabilitation of water supply sources in villages and small towns, sanitary issues, mini-power plants, rural roads, flood control; Chui, Osh and Jalal-Abad oblasts (ADB - US\$ 36 million);
- Second Agricultural Area Development Project (Chui oblast) (ADB - US\$ 30 million, 2003-2009) (planned);
- Rural development. Poverty reduction. Main attention will be given to issues of poverty reduction under the strategy of poverty alleviation accepted by ADB (ADB - US\$ 40 million, 2002-2008) (planned).

On a grant basis:

- Development of Water Users' Associations Project. Objective is capacity-building on establishment and management of water users associations (ADB - US\$ 0.9 million);
- Agricultural Area Development Project (Chui oblast) (ADB - US\$ 0.8 million);
- Project on Infrastructure Services at Settlements Level (ADB - US\$ 0.6 million);
- The second Agricultural Area Development Project (Chui oblast) (ADB - US\$ 0.7 million) (planned);
- Rural development. Poverty Reduction (ADB - US\$ 0.65 million) (planned);
- On-farm Irrigation Pilot Project (FAO - US\$ 0.4 million); Training on land-use issues (Know-How Foundation, Great Britain - US\$ 0.3 million);
- The National Irrigation Rehabilitation Strategy and Action Plan (EC/TACIS - Euros 0.2 million);
- Land Reform Project. The activities of the project are focused on the interconnected spheres of land reform in villages, land reform in cities, water users' rights and aspects of post-privatization and agrobusiness (USAID - US\$ 1 million);
- The Ministry of Ecology and Emergency Situation of the Kyrgyz Republic jointly with the GTZ implement the Basic Directions of Ecologically Oriented Planning of Socio-economic Development of Issyk-Kul Oblast Project ("Biosphere Reserve Issyk-Kul").

- The creation of biosphere territory in Issyk-Kul *oblast* is the national contribution of Kyrgyzstan to the twenty-first century. This shows the responsibility of the Kyrgyz Republic to the neighbouring states, whose vital basis is the reserves of fresh water of the great and gray Khan Tengri - Tien-Shan.
- The Swiss Agency on Development and Cooperation (SDC) finances the Dom Gor programme with monthly actions on mountain production, energy, tourism, water resources, mountain villages, climate change, land use.
- SDC also finances the Central Asian Mountain Partnership Programme (CAMP).
- Development of tourism based on communities project (Helvetas).

Measures planned under the NAP/CCD:

- Measures on reduction of external debts through implementation of projects on combating desertification.
- Preparation and promotion of the complex projects on combating desertification, starting from projects directed to the creation for the rural population of economic opportunities for ecological actions.

Financial allocations from national budgets in support of implementation as well as financial assistance and technical cooperation including their inflows. Processes to identify their requirements, areas of funding and setting priorities

Local financing:

At present financing of scientific researches on monitoring of irrigation land salinization processes is made for NAP/CCD implementation from the national budget.

The amount of financial and technical assistance within the framework of other national programmes is shown in the report.

US\$ 450,000 is allocated for nine CA countries on a line of ADB Regional Technical Assistance Project (RETA), while Germany has allocated about US\$ 1.5 million for UNCCD implementation in Asia, including CA countries. The GM has allocated US\$ 100,000 for the SRAP process. Other funds, for example funds of the International Fund for Agricultural Development (IFAD), will also be accessible in cash. Further activities will be extended in cooperation with the GM, GTZ/UNCCD and CIDA within the framework of partnership, in particular through the CIDA foundation in support of climate change for Southern Europe and Central Asia.

Financial support to the amount of US\$ 100,000 was allocated through the GM Programme for training and exchange of experience among communities for NGOs involved in the GTZ/UNCCD project, and for mobilization of NGO activities and traditional institutes in the region.

The following proposals in ICCD/COP(4)/3/Add.9 are urgent for Kyrgyzstan: B(d) strengthening of the programme on debt facilitation considering environment protection for debt repayment A(f). Now the materials on

implementation of this opportunity are being developed under the initiative of the Ministry of Ecology of the Kyrgyz Republic.

The majority of the credit projects implemented directly or indirectly by Kyrgyzstan connected to protection and improvement of the condition of natural resources can also be considered as environment protective for reduction of debt.

The areas of necessary financial assistance are shown in the report as well.

The updating and amending of the NAP, organization of the second National Forum after Rio+10 are required also in connection with dynamical progress of reforms and creation of new formations on public natural resources management.

Review of benchmarks and indicators utilized to
measure progress and an assessment thereof

General environment monitoring is carried out by the Department of Ecology and Environment Monitoring of the Ministry of Ecology of the Kyrgyz Republic.

Monitoring of the condition of land resources is carried out by the Institute of the State Land Register.

For the monitoring of land condition, the Water Inspection under the Department of Water Economy has been created.

Principal use of arable land and pastures is supervised by the Ministry of Agriculture and Water Economy.

The local structures of the State Forest Service supervise the condition of forests.

The National Centre to Combat Desertification under the UNCCD Coordinating Board reviews the activities of various Ministries on problems of land degradation and desertification, including activities within the frame of international projects.

LAO PEOPLE'S DEMOCRATIC REPUBLIC

The Lao People's Democratic Republic (Lao PDR) joined the UNCCD in 1996 and then prepared its first National Report on the implementation of the UNCCD in 1998.

The Science, Technology and Environment Agency (STEA) has been designated as coordinating agency for the Convention since 1999 and undertakes revisions of the report along with the revised National Socio-Economic Development Plan (NSED) and its five-year plan (2001-2005) and the associated National Priority Programmes and following the Explanatory Note and Help Guide provided by the UNCCD secretariat in 2002.

Address of the STEA is: Prime Minister Office Compound, Building 100, PO Box 2279, Vientiane, Lao PDR, Tel: (856 21) 213470, Fax: (856 21) 213472.

Address of the National Focal Point (NFP) is: Mr. Konsaysy Phommaxay, Director of Division of Environmental Policy, DoE-STEPA, PO Box 2279, Vientiane, Lao PDR, Tel: (856 21) 222752, or (856 20) 504219, Fax: (856 21) 213472, E-mail: kon_env@yahoo.com.

Situated in the centre of the south-east Asian peninsula, the Lao PDR covers an area of 236,800 km² with tropical climate dominated by the south-west monsoon that brings high rainfall and high temperatures between mid-April and mid-October and high intra-annual variability with a relatively frequent occurrence of flooding and drought.

There are three main agricultural climatic zones as described briefly below:

1. The mountainous north experiences a cooler dry season, and high intra-annual temperature variation. Soils tend to be heavily leached and acidic with low water retention capacity and generally low fertility and are not so suitable for intensive agricultural production.
2. The mountainous part of the centre and the south is dominated by a tropical monsoon climate but has similar soils to those of the north, with the exception of the Boloven Plateau which has deep, well-structured, less acidic soils with relatively good water retention and drainage capacity.
3. The river plains along the Mekong and its tributaries, which represent about 20 per cent of the country's area and support more than 50 per cent of the population, are dominated by a moist tropical climate, characterized by recent alluvial deposits which are acidic and shallow, with a low level of organic matter and low fertility.

Forty-seven per cent of the total area remains covered in forests, while high-density forest accounts for about 4.5 million hectares or 19% of the total land area.

The total cropland or crop-harvested area in the Lao PDR in 1998 was 788,162 ha (MAF, 1999) of which 617,538 ha (78.4%) was rice paddy area comprising lowland rice paddy 54.6%, dry season rice paddy 6.7% and upland rice paddy 17%.

In the Lao context, desertification refers to the land degradation and seasonal drought caused by agricultural development.

The NAP and projects to combat desertification/drought in the Lao PDR are related to the National Priority Programmes (NPP) especially the Food Production Programme, the Stabilization of Slash-and-Burn Cultivation Programme and the sectoral programmes such as the Irrigation Development Programme and the Land and Forest Allocation Programme.

Laws and regulations have been promulgated to support sustainable development and the use of natural resources and environmental protection.

Sectoral Development Plans and their five-year plan (2001-2005) have been developed according to the NSEDP with a view to combating desertification, covering issues concerning forestry, water resources, biodiversity, natural disasters, climate change, flood and drought prevention and environmental public awareness.

Progress has been made in implementation of these programmes. The principal multilateral and bilateral agencies involved in the development programmes of the country are the Asian Development Bank, the Australian Aid Agency (AusAID), the Danish International Development Agency (DANIDA), the European Community (EC), the Economic and Social Commission for Asia and the Pacific (ESCAP), the Finland International Development Agency (FINNIDA), the International Fund for Agricultural Development (IFAD), the International Rice Research Institute (IRRI), the World Conservation Union (IUCN), the Japanese International Cooperation Agency (JICA), the Mekong River Commission (MRC), the Norwegian International Development Agency (NORAD), the Swedish International Development Agency (SIDA), the UNCCD secretariat, the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United States Agency for International Development (USAID), and the World Bank Group.

For enhanced coordination, the National Environment Committee has been established recently with representation of key ministries. A coordination group for UNCCD implementation is also planned to be officially established.

The National Committee for Rural Development and the National Committee for Land and Forest Allocation extend their programmes and branches in all provinces to improve the development and use of land and forest resources in rural areas.

The Ministry of Agriculture and Forestry (MAF) with its branches at provincial and district level has been set up. The branches' missions include stabilization of slash and burn, combating forest fires, coordination and management of flood and drought control, and assessment of the country's natural resources with a focus on forest coverage.

The STEA and its provincial offices for science, technology and environment have a mission in environmental awareness and enforcement of the Environmental Protection Law and other relevant regulations as well as coordination and supervision regarding the Multilateral Environmental Agreements.

Decentralization of decision-making procedures is in process. The Socio-economic Development Plan designates provinces as strategic units, districts as planning-financial units and villages as administrators/executors.

Actions developed through these programmes and institutions support the National Drought Management Action Plan which has been established since 1999, thus combating desertification/drought in the Lao PDR.

LEBANON

The different ecosystems in Lebanon are threatened mainly by deforestation, overgrazing, urban development, road development, bad agricultural techniques, excessive use of chemical products, over-hunting and industrial development.

The soils are new, friable and easily eroded, most of the country being on sloping terrain. Relief, rainfall intensity and run-off contribute to the severe water erosion and soil loss, especially where the vegetation cover is reduced or lost.

Many aquatic and terrestrial species have either disappeared or are endangered because of the different threats to their habitats. Agricultural habitats could contain wild ancestors and relatives of several cultivated species. These habitats and their precious species are threatened by mismanagement of modern agricultural techniques.

Forest fires add to the problems the ecosystems are facing. The frequency and intensity of these fires are a real threat to the sustainability of the forest ecosystems. They usually occur at the end of the summer and are followed a few weeks later by heavy showers of rain, which cause severe soil losses.

Rural exodus has had impacts on land degradation, as abandoned agricultural lands are easily eroded. The war situation, which prevailed in the country for several years, has increased poverty, mainly in some remote rural areas.

The requirements of urban development and the rehabilitation and reconstruction operations after the long years of war, have led to a particular threat, that of quarries. In addition to the degradation they are causing, their anarchic development has caused severe scars in the landscape throughout the country.

After several years of lack of control imposed by the war situation in the country, the Government of Lebanon has realized the importance of linking the environment to the overall development process. Initiatives have been launched to save the natural patrimony and promote the protection and proper management of natural resources.

As soon as the countries affected by drought and desertification were called for the signing and ratification of the UNCCD, the Government of Lebanon, through the Ministry of Agriculture, signed the UNCCD in September 1995 and ratified it in December 1995. Consequently, the Ministry of Agriculture is in charge of the implementation of the UNCCD in Lebanon and hosts the National Focal Point (NFP). Since then, Lebanon has actively participated in most of the subregional, regional and international meetings relating to the Convention.

After having signed and ratified the UNCCD, Lebanon was expected to work on the implementation of this Convention through the elaboration of a NAP. One way to facilitate this was the establishment of an Umbrella Project that

aimed at identifying the necessary support and assistance during the preparatory phase of the NAP. An Umbrella Project document was, therefore, prepared with the assistance of UNDP and FAO. The project was then submitted to different potential donors. This document was then submitted to GTZ and UNDP and led to two projects to assist Lebanon in the preparation and implementation of its NAP.

The preparation of the NAP in Lebanon is, therefore, supported by two complementary projects (GTZ-MOA and UNDP-MOA), treated as one initiative with two components and managed by a multi-disciplinary team from the MOA led by the NFP.

Based on the UNCCD recommendations, the NAP elaboration process in Lebanon is being carried out in a participatory way, taking into consideration the needs of local communities in affected areas. The process has benefited and made use of the results and recommendations of previously conducted consultations with local communities. Additionally, consultation under focused group meetings was, and is still being, organized. Participants were selected based on their experience in the sector and in working in the field together with local communities. Sectoral focused group meetings are conducted, bringing together scientists, decision-makers and NGOs with solid field experience to discuss the causes and effects of land degradation and to formulate proper mitigation measures. Meetings are focused on the following sectors: water management, forest management, sustainable agriculture, soil conservation, rangeland management, socio-economic conditions, land-use planning, and legislation framework conditions. The first draft of the NAP is expected to be out by December 2002.

MONGOLIA

Mongolia is a landlocked country located in the north-east of Asia. Isolated from sea and surrounded by high mountains, 1,580 m above sea level, Mongolia is a country with 1.566 million km² of land and a population density of only 1.5 persons per km². Mongolia is at the same time one of the most cold, dry countries on earth with a harsh climate. The average January temperature in the capital city, Ulaanbaatar, is -18°C and the city receives only 290 mm of rainfall per year. As a result, in spite of extensive land resources, productivity remains low due to an extremely short growing season and the lack of water.

The Gobi desert ecosystem covers over 40% of Mongolia. It is a vast territory with predominantly infertile soil. During Mongolia's history of development, the country has quite often faced drought and desertification. This has clearly had a negative impact on the social and economic life of the country. Agriculture is the main economic sector and provides 35% of the GDP; and it accounts for 25% of all export products from Mongolia. As a result of drought and major winter disasters (*dzud* in Mongolian) over the last two years, the local people have faced difficulties through a lack of consumer products, a decreased raw material supply for national manufacture, a decline in export products and increased unemployment and poverty.

Examples of this are as follows:

- The value of the total number of dead livestock reached over 270 billion tugrug;
- Agricultural production was reduced by 16.8%;
- The annual growth of the GDP, estimated to reach 6.0%, was reduced to 1.1%.

During this time over 10,000 families lost their animals/livestock. This led to an increase in the number of unemployed people and further poverty.

Combating desertification is therefore an important task faced by the Mongolian Government policy-makers and parliament. In 1992 issues surrounding desertification were raised and in 1996 Mongolia became a Party to the UNCCD. The Mongolian Ministry of Nature and Environment (MNE) is responsible for the implementation of Convention activities targeted to combat desertification with the support of the National Committee to Combat Desertification (NCCD), which is working under the umbrella of the MNE.

The Convention covers a wide range of interrelated topics such as socio-economic and environmental issues. Complex decision-making on combating desertification requires coordination between the social, environmental and economic sectors. With compliance to the UNCCD, Mongolia reports about activities that have been undertaken within the framework of the implementation of the issues raised within the Convention.

Priorities and main policies (national policies, legal environment) within the scope of sustainable development programmes

In the Convention the importance of conducting long-term policies are underlined. These long-term policies are aimed at protecting the sustainable use of natural resources, environmental restoration and the improvement of soil productivity and the living standards of people based in desert regions.

Issues surrounding land degradation and the combating of desertification are reflected in the following:

- The Mongolian Government policy on Ecology 1996-2000
- The Sustainable Development Programme for the twenty-first century
- The Water National Programme
- The Forest National Programme
- The National Programme to Reduce Disasters
- The Government Action Programme in 2000-2004.

The above programmes and a further 20 programmes play an important role in the combating of desertification. In addition to this, the Mongolian Government aims at intensifying land renewal through the programme on Good Governance for Human Security. This includes the Government policy on Rural Development (1996), the national programme Green Revolution (1997), the Rehabilitation Programme for the Agricultural Industry (1998), the National Programme on the Protection of Livestock from *Dzud* and Drought (2001), the National Programme on Food Supply, Security and Livelihood (2001), the

National Programme on Poverty Alleviation (1994), and the National Programme on Supporting Family Life (2001). These programmes are projected to finish between 2005 and 2010.

The primary activity for each of the countries that participate in the Convention is to operate a NAP in order to combat desertification. The National Action Programme to Combat Desertification (NAPCD) proposal was developed with assistance from international organizations from 1994-1996. The Mongolian Government approved the NAPCD proposal in July 1996 (Resolution number 169). Strategies, directions, phases and stages are determined in the NAPCD by evaluating current environmental and socio-economic circumstances, reasons for desertification, and its causes and consequences. The basic principle of the NAPCD is to eliminate the factors that contribute to the development of desertification. In order to achieve sustainable results, environmental and socio-economic factors and organizational issues need to be taken into account. Long- and short-term activities outlined by the NAPCD include strengthening the national capacity to combat desertification, developing systems for the use and protection of natural resources, developing the sustainable use of pasture lands, heightening public awareness, supporting applied and joint research and improving management structures.

Institutional measures taken to implement the UNCCD

The Mongolian Ministry of Nature and Environment is the national body responsible for coordinating the implementation of the UNCCD in Mongolia. The National Coordinator of the Convention was nominated by the Minister for Nature and Environment. In 1998 the National Committee to Combat Desertification was established, which is responsible for the implementation and coordination of the Convention. Members of the Committee appointed by the Minister include 11 representatives from different Ministries, NGOs and research organizations. There is a need in the near future for the Government to improve the legal status of the National Committee as well as to provide separate facilities, staff and an adequate budget. It is important to improve the capacity of members of the Committee, to increase the number of members and to improve coordination and cooperation between different sectors. The duties and obligations of the National Committee are based on and in accordance with the First Report on Implementing UNCCD in Mongolia previously submitted to the secretariat of the Convention. The Committee provides activities to combat desertification, and guidance and support for implementing projects in 21 *aimags* (provincial centres) via the Governor's office. The establishment of the Land Management Agency under the Ministry of Nature and Environment in 1997 was an important step toward implementing Government policies on sustainable land use and restoration.

The State Emergency Commission, State Civil Defence Agency, and Red Cross Association carry out activities to combat natural disasters such as droughts and *dzud* (heavy snowfall with extreme cold temperatures). Research institutions are providing different studies concerning the current situation of desertification, backgrounds and so forth.

The Institute of Meteorology and Hydrology monitors desertification, and in 1998 the Centre to Combat Desertification was established in the Institute of Geo-ecology.

Participatory approaches to combating desertification

In order to implement the NAP, representatives from parliament, Government, universities, NGOs and the private sector as well as local people need to be involved. It is important to work with stakeholders on all stages of policy development for the programme and related projects.

Public awareness activities surrounding desertification and land degradation are being issued through the mass media. Activities to combat desertification and encourage the sustainable use of natural resources cannot be implemented without the active participation of local people.

Under the umbrella of the project Integrated Management to Combat Desertification, project implemented through financial assistance from the Federal Republic of Germany, 43 cooperatives have successfully been established. These cooperatives are spread through 12 project-site *soums* (provinces) in order to promote the participation of stakeholders. Generally, herders in all parts of the country prefer working collaboratively and they have established a number of cooperatives, units and groups. They are keen to use pasture lands and water resources sustainably as well as to improve their livelihoods through the integrated management of natural resources. Local administrative bodies have also developed and implemented their own desertification programmes and action plans within their areas.

The 1995, 1997 and 2001 national seminars jointly organized with the secretariat of the UNCCD and the resulting recommendations on a number of urgent questions have played a significant role in promoting public participation in combating desertification. The Asia-African Conference to Combat Desertification and the Regional Meeting of the Asian UNCCD NFPs organized in Ulaanbaatar (June, 2001) were both important events. Each event promoted the Mongolian people's recognition of the significance of combating desertification and developing international cooperation with other countries.

Training and seminars on combating desertification and land degradation have been organized in several *aimags* and *soums*. Several handouts and pamphlets have also been published. Within the framework of the environmental public awareness project, a number of small projects have been successfully implemented through different children/youth and women-based NGOs. Specific activities have been customized from the work plan in order to organize and celebrate the International Day to Combat Desertification, held annually on 17 June.

Drought and desertification monitoring and assessment

Relevant institutions of the Academy of Science and Hydrometeorology and Environment Monitoring Agencies are organizing research on desertification. Research has been undertaken on flora, ecosystem characteristics, climate and the water supply of the Gobi and desert zones. More specifically these

include climate change within the different ecological zones, biomass fluctuations in cultivated areas and in pasture land vegetation cover, eco-engineering models, pasture management, soil productivity, erosion and deterioration, sand movement, overgrazing, carrying out capacity surveys and so on. In 2000, State monitoring of the condition and quality of the land was carried out. Monitoring covered 1148.7 thousand hectares of cultivated land, 1766.6 thousand hectares of land used for haymaking and 50 thousand hectares of urban areas. Maps (1:1,000,000) and reports for each of the *soums* involved were produced.

The State Network of Hydrometeorology is engaged in various kinds of hydrological, meteorological and agricultural observations and surveys in over 320 *soums* and smaller settlements. Within the Pasture Plant Monitoring Programme, phenomenological observation surveys are undertaken of the main pasture-plants in relation to the natural and climatic conditions, plant diseases and the moisture content of soils. A natural disaster information system to inform the community/public on droughts and *dzud* and so on has been established using information received from the hydrometeorological network and satellite databases. Long-term climate forecast methods have been developed and are now used. The National Climate Change Programme was approved by the Mongolian Government in 1999. Measures to strengthen the capacity of the hydrometeorological and environmental monitoring personnel, as well as to improve the facilities of the observation stations, are regularly undertaken. Mongolia actively participates in the activities of the Asian Disaster Reduction Centre and works collaboratively on developing and using the information database. A Geographical Information System (GIS) is being developed using air and space images in order to assess the quality of the land for the land cadastre database.

In Mongolia there is, however, no specific research into desertification conditions and trends and its negative socio-economic impacts. There is poor cooperation between different scientific projects and disciplines coupled with a general lack of information. It is time to pay more attention to the control and monitoring of desertification. The current Government Action Programme highlights the importance of expanding the level of research on desertification and implementing related scientific projects.

Measures for the restoration of degraded land

Practical measures to combat desertification, restoring degraded environments and introducing adequate techniques and methodologies, are urgent tasks. Over the last four years, several projects have been implemented to protect sites from the movement of sand. These projects were implemented in the driest desert regions, namely in Zamiin Uud, Khoh Morit *soum* in Dornogobi *aimag* and in Gobi-Altai *aimag*. The Land Management Plan and 10-Year Programme to Combat Desertification of Zamiin Uud were developed on the basis of determining the root causes and impacts of sand movement. Assessment of the current condition of the soil and vegetation of the area surrounding Zamiin Uud is now under way in conjunction with the local administration.

Measures are being taken to extend the protection of vulnerable ecosystems in the Gobi and desert zones, including rare and endangered flora and fauna.

Gobi Gurvan Saikhan National Park, Little Small Gobi Strictly Protected Area and several others at *aimag* and *soum* level - all within the southern arid zones - have already been established. Today 13% (or 2.5 million hectares) of Mongolia belongs to the National Protected Area network.

Over the last four years, 4.3 thousand hectares have been reforested at a cost of 870 million MNT (money provided by the State budget). In 2000, 9,030 hectares of new forest were established throughout the country. Research on the spread of harmful insects over 300 thousand hectares of land was carried out and resulted in 8,000 hectares of land being sterilized.

Statistics show that only approximately 30% of mined areas throughout Mongolia have been partially restored.

Within the framework of the implementation of the Mongolian Action Programme on Water, a total of 650 wells in 19 *aimags* (300 *soums*) were repaired over a three-year period, funded by the central budget. Within the framework of the Water-21 Project sponsored by the Dutch Government, a total of US\$ 250,000 went toward the reparation of mechanical wells. Other activities include the planting of perennial species in 300 hectares of agricultural land created from a former wasteland, and the implementation of chemical and biological measures against rodents damaging pasture land covering 326 thousand hectares in five *aimags* (16 *soums*).

Resource mobilization and coordination to implement the UNCCD

The policy of the Mongolian Government is to develop cooperation with donor countries and international organizations in order to implement the UNCCD. Mongolia has actively participated in all stages of the development of the UNCCD. The Government also cooperates with the UNDP and UNEP secretariats in combating desertification. The Mongolian Government has organized eight donor country meetings since 1990 and has received aid for environmental work.

From 1996-2000, the Ministry of Nature and Environment developed 20 projects to combat drought and desertification and presented these to international organizations. As a result of this, 14 projects were financed (totalling US\$ 24.6 million) and were implemented, some at a local level and others at a national level.

Mongolia is developing bilateral cooperation through agreements with the American, German, Japanese, Korean and Hungarian environmental ministries and authorities. There are a further seven intergovernmental agreements with neighbouring countries: China, Russia, Kazakhstan and Kyrgyzstan, on environmental protection, including the protection of trans-boundary water resources and hydrometeorological and environmental monitoring. Representatives from Mongolia are actively participating in international meetings, training courses and workshops relating to desertification.

In 2000, the Bonn COP 4 made the decision to place Mongolia in charge of implementing "Mitigating the effects of drought, and capacity building for combating desertification" within the framework of UNCCD implementation in Asian countries.

MYANMAR

The main purpose of this report is to provide an update on the situation in Myanmar with regard to measures taken for the implementation of the UNCCD at the national level since the submission of the Myanmar's first national report in August 2000.

Myanmar acceded to the UNCCD in January 1997. Even before Myanmar's accession to the UNCCD, measures relating to combating desertification had been taken at the local and national levels. In 1994, the Ministry of Forestry (MOF) launched a three-year Greening Project for the Nine Critical Districts of the Sagaing, Magway and Mandalay Divisions in the Dry Zone. This was later extended to 13 districts with the creation of a new department, the Dry Zone Greening Department (DZGD), in 1997.

In recent years, the Government has stepped up its efforts on preventing land degradation and combating desertification. The most significant effort is the rural area development programme envisaged in the current Third Short-Term Five-Year Plan (2001-2002 to 2005-2006). The rural development programme has laid down five main activities. These include ensuring smooth transport in rural areas, supplying sufficient water, promoting education of rural people, enhancing health care services, and ensuring economic development. Particular focus is given to the supply of sufficient water to the Dry Zone in Central Myanmar where water is scarce and where rural development in these areas has been retarded.

It is estimated that altogether 2,454 villages in Sagaing Division, 1,469 villages in Magway Division and 4,119 villages in Mandalay Division are facing water shortages.

Water supply works including underground water tapping projects, irrigation works and river-water pumping projects are being carried out collectively by a number of Government ministries and departments. The Development Affairs Department under the Ministry for Progress of Border Areas and National Races and Development Affairs is undertaking the task of providing adequate water supply in the rural areas. The Ministry has drawn up the 10-year water supply project and has now been implementing the project to supply water for Sagaing, Magway and Mandalay Divisions.

The provision of sufficient water supplies and safe drinking water for rural areas is prioritised, with first priority given to those villages where water is extremely scarce, second priority to those villages where water supply is insufficient, third to those villages which lack safe drinking water, and fourth to those villages where water is sufficient but action is needed to ensure a constant supply.

During the fiscal years 2000-2001 and 2001-2002, a total of 578 water supply stations were built in Sagaing Division, 411 in Magway Division and 866 in Mandalay Division. It is estimated that over 22,000 rural areas in the Dry Zone need drinking water which meets the health standard. At present, an adequate water supply has reached nearly 3,000 villages.

The greening activities of the DZGD have also been accelerated. A comprehensive plan for reforestation of the Dry Zone for a 30-year period (2001-2002 to 2030-2031) has been drafted. The plan is divided into six five-year short-term plans. The following activities are included in the 30-year plan:

- Establishment of forest plantation for greening the environment and for local fuelwood supply;
- Protection of remaining natural forests;
- Introduction and promotion of wood fuel substitutes;
- Management and development of water resources.

It is planned to establish 0.8 million acres of forest plantations, to protect 1.8 million acres of natural forests, and to establish 1.2 million acres of community forest during the 30-year period.

During 1997-1998, a total of 72,210 acres (29,223 ha) have been planted under the Nine-Districts Greening Project. From 1998-1999 to 2001-2002, DZGD planted a total of 131,178 acres (53,088 ha) in the Dry Zone.

It has been identified that about 1.82 million acres of degraded forests and about 2.8 million acres of forests affected by shifting cultivation are in need of protection. A total of 100,000 acres of natural forests have been protected every year since 1997-1998. Up to 2001-2002 about 689,511 acres (279,045 ha) of natural forests have been protected.

DZGD has constructed 429 small check dams and 702 ponds and has dug 26 artesian wells from 1997-1998 to 2001-2002. Greening of mountains in Mandalay, Magway and Sagaing Divisions has also been undertaken.

The UNDP/FAO project entitled "Environmentally Sustainable Food Security and Micro-income Opportunities in the Dry Zone" has been successfully implemented in three townships of the Dry Zone, namely Chaung-U, Magway and Kyaukpadaung townships, with community participation. Small-scale afforestation and reforestation projects have also been undertaken jointly with some international NGOs such as Yomiuri, Organization for Industrial, Spiritual and Cultural Advancement-International (OISCA-International), Japan International Forestry Promotion and Cooperation Agency (JIFPRO) and Korean International Cooperation Agency (KOICA).

The underlying causes of land degradation in Myanmar, particularly the Dry Zone, are both natural and man-made. To address the situation, collaborative efforts among the ministries concerned, local communities and international agencies are essential. To date, the efforts for combating desertification and drought in Myanmar are undertaken mainly by the Government using its own limited resources.

Myanmar is now in the process of preparing the NAP. The First Workshop on Preparation of the NAP was held in Yangon, Myanmar on 20-21 December 2001. A national level coordination committee, a national level working committee, and state, division, district, township and local level working committees will be formed to formulate and implement the NAP. The NAP will integrate the

present 30-year Afforestation Plan, the activities outlined in Myanmar Agenda 21 and the recommendations of the national workshops.

NEPAL

Nepal's State of the Environment (SOE) report in 2001 prioritizes land degradation and desertification as significant environmental issues because of "too much water" and "too little water" situations, and physical, biological and socio-economic conditions. Wind erosion also prevails in deep valleys, the trans-Himalayan region and the Terai. Drought is experienced even in the wet season. The ratio of precipitation to evapo-transpiration ranges from 0.02 to 0.77 in some areas indicating arid, semi-arid and sub-humid characteristics. With due consideration of these phenomena, the Ministry of Population and Environment (MOPE) - the focal ministry for the UNCCD - organized a national workshop as part of the NAP formulation process in December 2001, conducted some studies, and drafted the NAP during the past two years. This Second National Report follows the format outlined in decision 11/COP.1 and the Second Reporting Process on UNCCD Implementation Help Guide (ICCD/CRIC(1)/INF.5). This report attempts to update the national report submitted to the UNCCD secretariat in April 2000 and includes measures taken within the last two years.

Sustainable development plans, strategies and priorities

Nepal has mainstreamed national development policies, plans and strategies towards poverty reduction. A poverty reduction strategy has a target of increasing GDP growth from 2.7 to 4.0 per cent, non-agricultural GDP growth from 5.7 to 8.0 per cent, revenue from 10.2 to 13.1 per cent, and national saving from 17.8 to 20.7 per cent over a period of five years. A long-term vision of empowering the local bodies - the District Development Committees, Village Development Committees and the Municipalities - through the devolution of resources, authority, roles and responsibilities is in place in order to bring them into the mainstream of natural resource management (NRM) programmes. In addition, emphasis has been given to involving other stakeholders, particularly the user groups, to utilize best their accumulated knowledge and experience to increase NRM productivity. During the past two years, Nepal has drafted a Sustainable Development Agenda (SDAN) within the broad framework of Agenda 21 which focuses on cross-sectoral issues and provides a basis for inter-sectoral coordination. Nepal is also in the process of preparing a detailed Tenth Plan (2002-2007). This Plan has four broad strategies for obtaining high sustainable and widened economic growth, social sector and infrastructure development, targeted programmes for poverty reduction, and good governance to meet the single objective of poverty reduction. It has prioritized the agricultural development, the sustainable management of natural resources and biodiversity conservation, and about 12.8 per cent of the total budget will be allocated for the Plan period. Halting further degradation of land and water resources is one of the major thrusts of the national development policy. The Tenth Plan focuses on maintaining and/or increasing land productivity and restoring the degraded lands, implementing agricultural activities, minimizing land fragmentation, distributing acquired land to landless and economically disadvantaged people,

and avoiding dual land ownership. It also focuses on discouraging the use of fertile land for non-agricultural purposes and encouraging cultivation in unused land through land leasing and so on. This Plan considers the need for further understanding highland-lowland interaction and implementing conventions including that on desertification.

A 21-year Master Plan for the Forestry Sector (MPFS) 1988 emphasizes, *inter alia*, protecting the land against degradation. The Agricultural Perspective Plan 1995 aims to increase farm production. A Water Resources Strategy 2002, recently endorsed by the Government, prioritizes, *inter alia*, water-induced disaster management, watershed management, and initiation irrigation for agricultural development. The Government has also introduced a land reform programme and lowered the land ceiling for each family in mid-2001. The land obtained from this mechanism will be provided to landless, bonded labour, indigenous and disadvantaged groups of people.

The draft NAP underscores the importance of scientific and technological study and research in degraded lands to promote problem-solving studies and develop cost-effective technologies. Special focus has been given to refining conservation methods for degraded lands, promoting research internship and mobilizing the scientific community to map the areas affected by land degradation and desertification.

Information on land-use change, vegetation cover, principal soil types, soil fertility of the cultivated land, crop performance and so on have been updated periodically. Landslide and flood-induced land loss is recorded annually. However, much still remains to be done for quantitative assessment of the land and water system and to know the extent and magnitude of land degradation, desertification and drought. With regard to traditional knowledge and practices, efforts are under way to enhance their replication in different ecological zones.

Research on water-induced disaster prevention has been started in order to develop appropriate technologies and human resources and cost-effective models. A curative approach prevails rather than preventive ones in the disaster relief system. Public awareness and capacity-building activities have also been initiated but the pace is slow. Nepal has continued to recognize the contribution of individuals, NGOs, CBOs or institutions by awarding them prizes on an annual basis.

Institutional and legal measures

As also mentioned in the First National Report 2000, MOPE is the NCB and Chief of the Environment Division is the contact person (NFP) for the UNCCD. MOPE is responsible, *inter alia*, for the formulation and implementation of policies, plans and programmes, and acts as a focal point for national and international organizations. It is a legal entity and coordinates environment and environment-related conventions in Nepal.

In April 2002, His Majesty's Government of Nepal (HMG) has also constituted a National Commission for Sustainable Development (NCSA) - an advisory body - under the chairmanship of the Right Honourable Prime Minister to promote

sustainable development and ensure inter-sectoral coordination. In addition, a number of institutions provide policy guidance and advisory services, formulate policies and laws, and implement Convention-related programmes. However, effective coordination amongst the institutions has been felt to be the need of the hour.

Nepal has continued to empower and strengthen the institutions and to provide additional responsibilities, particularly to the local bodies, community user groups, NGOs and the private sector. The Government will play facilitative and regulatory roles and the local bodies and other stakeholders will implement the activities. Social mobilization is growing and has promoted ownership and genuine participation of stakeholders in groups, consensus building, benefit-sharing and maintaining accountability.

The NAP has been drafted with a detailed review of existing policies, plans, programmes and regulatory measures. Most of the programmes and actions are proposed for continuation and area increment. As the NAP does not differ from the existing broader strategies and planning frameworks, it would be an integral part of the national planning process, and will be encouraged to integrate with the district level planning process.

The subregional bodies such as SAARC, SACEP and ICIMOD are the prominent institutions promoting environmental management. The draft NAP accommodates the concerns and issues as reflected in the TPN2 and RAP and hence provide a basis for sharing information and experience to promote subregional cooperation. The NAP is expected to address land- and water-based problems in the subregion.

Laws relating to soil and water conservation, water resources, environment protection, forests, agriculture, protected areas management and so on have been reviewed with the objective of identifying gaps and areas requiring regulatory measures for the effective implementation of the Convention. The study suggests including provisions for the handing over of barren lands to the community, promoting agroforestry, enhancing public participation in disaster management efforts and so on.

A study conducted in July 2001 on tracing linkages amongst the UNCCD, CBD and UNFCCC has thrashed out common concerns and problems, and has recommended, *inter alia*, implementing common programmes, and expanding monitoring activities at the local level including codification of the environment-related laws.

NAP preparation: participatory process

During the NAP formulation, interaction meetings, workshops and seminars were organized, and resource persons were consulted to thrash out issues and generate ideas to combat land degradation and mitigate the effects of drought. The preliminary draft NAP was discussed with over 225 individuals representing different stakeholders - Government institutions, local bodies, the private sector, NGOs, media, user groups and academic institutions - and the NAP is in the process of seeking official comments and suggestions.

The draft NAP defines goals, objectives and strategies. The goal of the NAP is to mitigate land degradation, the desertification process and effects of drought through improved land use and sustained land management. The NAP aims to prevent, mitigate and reduce the consequences of land degradation and drought and also aims to identify factors contributing to land degradation and drought, to implement preventive and rehabilitative measures, and to specify the roles and responsibilities of the Government, local bodies, NGOs and civil society in programme implementation. The strategy is to promote the participation of local bodies, users, farmers and other stakeholders in NAP implementation by empowering and strengthening them, encouraging research institutions in problem-solving research, and developing appropriate technologies. The Government institutions will play a catalytic role and the different stakeholders will have responsibility for implementation.

The NAP includes main programmes in seven areas and supportive programmes in nine areas. The programmes and actions are prioritized with a time frame, catalytic and implementation role and indicative budget. A total of 24 programmes and 88 actions have been proposed in 16 areas. Of them, 48, 36 and 4 actions are put in first, second and third priority categories respectively. In terms of time frame, 25, 41 and 22 actions are considered as short-term, medium-term and long-term actions respectively. Similarly 60, 25 and 3 actions are categorized as small, medium and large-scale actions respectively. Most of the proposed programmes are applicable to all ecological zones and priority is given to the Siwalik and Hill - the degraded lands. The draft NAP underscores the need for its periodic review, and also the need to develop and implement projects to translate the programmes into actions.

Main programme areas

- Forest management
- Soil and water conservation
- Pasture management
- Special programmes for the mountains
- Food security
- Early warning and disaster relief
- Systems
- Cross-sectoral programmes

Supportive programme areas

- Policy development
- Legal instruments
- Institutional strengthening
- Demonstration, scientific studies and research
- Indigenous knowledge and its practice
- Data and information sharing
- Technology development and its transfer
- Education, public awareness and media campaign
- Capacity-building

The proposed NCB, in which the stakeholders will be represented, will facilitate programme implementation and monitoring, and ensure inter-agency coordination. Similarly, a local-level coordination mechanism has been proposed. A Technical Advisory Group will provide scientific, technical and technological input to the NCB.

NAP consultative process and partnership agreement

Nepal is continuously receiving technical and financial assistance from its developed and developing partners in social and economic development, and the NRM programme expects additional assistance. Partnership arrangements at the national level have been promoted and there is yet a need to work these out with the donor community. Nepal has clearly indicated in the earlier donor consultative meetings that it will supplement national initiatives financially and technically in launching action-oriented programmes on the environment, capacity-building and technology transfer.

Measures taken or planned within the NAP framework

During the NAP formulation process, a series of interaction meetings and studies have been carried out during the past two years, and the outcome has been used as a building block for NAP formulation. Programmes and projects relating to poverty reduction, forest management, rehabilitation of degraded lands, management of protected areas, sustainable development, energy conservation and efficiency are ongoing with donors' assistance. However, its coverage is limited in addressing the ever-increasing magnitude and extent of the problem. Interest on the part of the local people and other stakeholders is increasing over NRM through public awareness activities while capacity-building in the local bodies is still lacking and needs strengthening as early as possible.

People's participation has been promoted to continue and expand the coverage of NRM activities by further empowering and strengthening local bodies, NGOs, CBOs and other stakeholders. These processes require additional technical and financial resources in order to speed up the activities in the spirit of the Convention. Information on land degradation and forest depletion is regularly disseminated to enhance knowledge and skills and to bring the people further into the mainstream of NRM programmes. The draft NAP emphasizes the need to continue public awareness, education and capacity-building programmes. Nepal realises the additional need to develop the capacities of local bodies and grass-roots institutions in order to translate policies into actions.

The effectiveness of most of the project-based activities are regularly monitored and evaluated through in-built mechanisms. Soil loss monitoring in the demonstration plots and selected watershed is limited and the monitoring and evaluation system is yet to be internalized and utilized to maximise the use of monitoring results.

In the spirit of the Convention, income-generating activities have been integrated with NRM activities. User groups in the field of community forests, irrigation water and buffer zone resources are entitled to share the benefits legally and this has generated some funds at the local level.

A number of practices have been continued to conserve soil and water, and to increase productivity. A SABO technique - a Japanese technique - has recently been introduced in some places of Nepal to stabilize roadside slopes and reduce water-induced soil erosion. Although this technique has been effective, it is rather expensive.

Nepal has developed partnership at the national level and the NAP emphasizes maximizing the use of this strength and promoting cost- and benefit-sharing approaches. The NAP contains actions to promote the participation of different stakeholders right from policy to implementation levels.

Financial allocation and technical cooperation

At present, the Environment Conservation Fund, administered by MOPE, is the legal funding mechanism, which receives grants from the consolidated fund. It has a limited fund to cater for the local demand. However, this fund, if replenished, provides hopes of mobilizing local NGOs and CBOs. Nepal has also established the Poverty Alleviation Fund and establishment of the Trust Fund for Biodiversity Conservation is in process. Local bodies, NGOs, CBOs and civil society will have access to such funding sources. In addition, funds generated by the community users, and funds received from bilateral and multilateral donors, GM, GEF, United Nations bodies and so on would be instrumental in implementing NAP activities.

In order to implement the NAP, an indicative budget of US\$ 96.9 million has been estimated to continue ongoing activities and initiate new ones. Of this, about 14 per cent is estimated for supportive actions, which are very important to institutionalize the implementation of the main programmes. It is estimated that about 10-12 per cent of the total indicative budget could be channelled through domestic sources. With regard to external funding, Nepal has so far received US\$ 18,000 (US\$ 10,000 from the UNCCD secretariat and US\$ 8,000 from the GM) for national reporting and public awareness activities, and has spent about US\$ 16,000 through a national consolidated fund to conduct necessary studies as part of UNCCD implementation during the past two years. These resources are grossly inadequate to address the magnitude and extent of the land degradation and desertification problems.

Programmes that promote the conservation of the Siwaliks and degraded hills are priority concerns for Nepal. In addition, the preparation of maps on land degradation and desertification, sustainable tourism development, the establishment of disaster prediction and forecasting facilities, and synergies amongst the relevant environmental conventions are the current priority areas. Furthermore, capacity-building deserves special attention for international cooperation and assistance. Nepal cannot implement all activities contained in the NAP through national resources due to her financial situation. Several programmes have been initiated with donors' assistance which support directly or indirectly meeting the objectives of the Convention. Many programmes and actions can be accomplished through the modality adopted by the Technical Cooperation among Developing Countries (TCDC). In view of the present needs and limitations, Nepal underscores the important role of the donor agencies for NAP implementation.

Benchmarks and indicators

Some indicators identified in the draft NAP are related to the change in income level, frequency of landslides and floods and its effect on people and land, flood and drought affected areas, areas of community forests, leasehold forests, and protected areas. Additional indicators are of productivity of

agricultural land and pasture land. The water resources strategy further includes indicators, particularly on mapping of the potential disaster zones, and providing emergency relief materials and year-round irrigation facilities by the year 2007. As mentioned above, the NCB will have overall responsibility for coordinating, monitoring and evaluation. In addition, sporadic studies have been conducted to assess the conditions and impacts of land degradation and drought. Although some demonstration plots are used to monitor soil loss, its coverage is too low in view of the magnitude and extent of the problems, and ecological variations. In many areas, Nepal has yet to streamline monitoring and assessment of land degradation and drought in the spirit of the Convention.

Information has been shared with the users. The EIA reports are made public legally before their approval. The print and electronic media are involved in disseminating information. Radio and television broadcast NRM-related issues and concerns regularly to promote public awareness.

Conclusions and recommendations

Nepal has progressed during the last two years in generating information and drafting the NAP. The NAP recognizes the need for continuation of various programmes and actions as preventive and rehabilitative measures. The NAP opens avenues to integrating and expanding income-generating activities on NRM programmes. The NAP requires adequate funding, human resources, enabling mechanisms and monitoring and evaluation systems for its successful implementation. In this context, Nepal expects additional technical and financial assistance from bilateral and multilateral donors.

In view of addressing the emerging issues, Nepal considers that at its forthcoming meeting, the CRIC may wish to discuss and recommend on the following issues:

- Mobilizing additional resources to the small and least developed countries;
- Establishing linkages and synergies between the relevant conventions, and additional funding for common programmes;
- Implementing pilot projects for the rehabilitation of degraded uplands to minimize downstream effects;
- Enhancing participatory processes; and
- Exploring knowledge, attitudes and practices of the community in fighting against land degradation and desertification.

NIUE

Niue is the world's largest and highest single coral atoll, yet in contrast is the smallest self-governing nation. It is a unique island with an elevated rugged coastline and extensive forest cover, which comprises 65% to 70% of the land area. Niue is primarily an agricultural-based economy. Land degradation as a result of deforestation in Niue potentially places threats on soil fertility, structure and biodiversity.

The expansion of agriculture is one of the major causes of land degradation, which is prevalent in Niue. The key agricultural activity in Niue is the growing of taro for export, resulting in large areas of land being cleared. Improved technologies for land clearing, such as the use of bulldozers, intensive agricultural practices and the increased use of agricultural chemicals, have contributed to deforestation. Niue has recently developed a forest policy which provides some guidelines for the conservation and sustainable development of the forest on the island.

The fertility of Niue soils is limited. Limestone outcropping occurs over approximately 50% of the island and many soils are deficient in organic matter, potassium and zinc. Traditional burning techniques were a concern as they reduced vegetation litter and exacerbated potassium reserve depletion. The use of bulldozers, however, maintains a litter herb ground cover to assist potassium cycling.

The discing programme in the 1960s produced large areas where soils were severely depleted through being mixed in with churned up makatea to the point where only stunted growth of low ferns occurred.

Although land degradation in Niue has been recognized and well documented, no activity could be identified that addresses this issue specifically. However, developmental initiatives are generally accepted if sustainability is considered, particularly where the environment is concerned; this is exemplified by the adoption of the National Forestry Policy, which serves as a guidance for sustainable development of Niue's forest.

Research programmes that indirectly address soil degradation have been limited to small-scale extension projects. One such example includes the 1992 Forestry Plantation project which was initiated partly in an attempt to replenish depleted soil areas through agro-forestry development and also to utilize and re-vegetate desert areas. The project, however, was not a total success and was reviewed in 1997. The outcome of the review recommended the implementation of an agro-forestry demonstration set-up with the aim of promoting soil rejuvenation through activities such as the introduction of legumes in areas after taro crops were harvested.

Also, under the auspices of the AusAID-funded Land Marine Resource Unit Plan, GIS soil and land cover maps for Niue were produced and further collated into a basic land capability model. This will allow procedures to be put in place to ensure that the clearing of regenerating and primary forest is discouraged.

The most recently updated report on the status of Niue's environment, the Niue Biodiversity Strategy and Action Plan (NBSAP 2001), further recommended a number of activities targeting sustainable management of cleared lands for agriculture.

In addition, the recent attempt by Niue to adopt organic farming will introduce a number of practices that will further address issues of land degradation, such as improved organic content in soils and sustainable agricultural practices.

However there are pertinent policy and physical land practice changes needed to ensure the future sustainable use of Niue's soil and forest resources. Land tenure within Niue is interlinked with socio-cultural, socio-economic and physical practice factors. Given that land tenure is so inextricably linked to natural resource management in Niue, to suggest changes to physical land practices only, as a means for sustainable use, would be wrong.

It is anticipated that proposed legislation currently in draft form such as the Environment Bill and the Integrated Environmental Planning and Management Bill 2000 will provide some control over management of all natural resources.

In summary, there are physical land management practice choices available which could ensure the future sustainable use of Niue's soil resources. The alternatives will need careful consideration and many may require scientific and economic feasibility studies.

PAKISTAN

Each Party to the UNCCD is required to communicate through the UNCCD secretariat a national report on measures undertaken to implement the UNCCD in pursuance of Article 26 of the UNCCD and decisions of its Conferences of the Parties (COPs), particularly decision 11/COP.1.

The main purpose of this second national report of Pakistan on the implementation of the UNCCD is to inform the Parties to the Convention about the measures taken for implementation of the UNCCD at the national level. Its purpose is also to facilitate assessment of progress in combating desertification in the longer term and to make appropriate recommendations towards realizing those objectives. This report has been structured as per format and contents/headings in decision 11/COP.1 (paragraph 10) taking into account the degree of development of action programmes and other relevant circumstances.

This second national report briefly highlights the activities undertaken and action completed for the implementation of the UNCCD since the first national report was submitted in April 2000, but prior to that as well though in indicative form.

In Pakistan, there is a serious problem of land degradation in many parts of the country. The northern mountains of Pakistan are the major source of water for the Tarbela and Mangla dams. However, due to heavy soil erosion caused by

deforestation in the catchments, these reservoirs are silting up, thus reducing the capacity of power generation and the availability of irrigation water. Deserts have acute problems of shifting sand dunes and salinity. The irrigated areas are infested with the twin menace of waterlogging and salinity. Because of mismanagement of the Sulaiman Rod Kohi areas, there is substantial damage to crops and property by flash floods. Underground water resources in the western dry mountains of Balochistan are shrinking, due to very little recharge, and overexploitation of the meagre quantity of water for horticulture and crop cultivation. The productivity of rangelands is hampered by heavy livestock pressure. The arid coastal strips and mangrove areas are under increased environmental stress from reduced fresh water flows, sewage and industrial pollution and over-exploitation of other natural resources.

To address the major issues of land degradation and low agricultural productivity, among others, the following useful reports/detailed studies have been completed in the past which describe the strategies and priorities established within the framework of sustainable development plans and/or priorities:

- Punjab Barani Commission Report, 1973 (PBCR);
- National Commission Report on Agriculture (1998);
- Forestry Sector Master Plans, 1992 (FSMP);
- National Conservation Strategy 1992 (NCS);
- Sarhad Provincial Conservation Strategy 1996 (SPCS);
- National Master Agricultural Research Plan 1996 (NMARP).

In addition to the above, the Government of Pakistan took several other important steps for the protection of the environment and to achieve sustainable development and implement the Convention. These include the establishment of the Pakistan Environmental Protection Council (PEPC) and Environmental Protection Agencies at federal and provincial level. Pakistan is a player in social, economic and environmental dimensions and has become a signatory to many international conventions/protocols/agreements.

Being the NFP of the UNCCD in Pakistan, the Ministry of Environment, Local Government and Rural Development is responsible for coordinating the efforts for combating desertification in Pakistan. In addition to the Provincial Technical Departments of Agriculture, Irrigation, Livestock, Soil Conservation and Forestry, a number of agencies are engaged in R&D activities aiming at halting land degradation and at desertification control in the country.

The Government feels its responsibility to encourage and facilitate communities to mobilize their resources at local level for combating desertification. In this connection, new local government strategy conceives the citizens' right to participate in running their community affairs. Poverty reduction is only possible when economic, political and social dimensions of governance are addressed by forging partnerships between the Government, the private sector and civil society. The Government has now experienced devolution of power to the vast majority at the districts level and is determined to strengthen good governance by increasing the

transparency and accountability of its administrative operations and capacity. The Devolution Plan, which devolves powers and responsibilities, is to strengthen governance by increasing the decentralization, transparency and accountability of administrative operations. Decentralization is not an end in itself; it is only a means of enabling citizens' participation, especially that of the most vulnerable in policy matters. Decentralized systems have the potential to deter authoritarianism and promote democracy, justice and equity.

The NAP to combat desertification and drought has been prepared in accordance with the guidance provided by the UNCCD and in consultation with national and international organizations and stakeholders. The factors pertaining to desertification in different regions of Pakistan have also been analyzed meticulously. The NAP recommends a strategy to intensify efforts at national, provincial and district level to adopt such measures and steps with the active involvement of all stakeholders. The NAP has chosen approaches to fight desertification keeping in view the physiographic peculiarities of Pakistan.

The NAP contains the state of the country's environment with reference to the phenomenon of desertification, its causes and effects and implications of current land-use practices against the backdrop of the existing socio-economic conditions. It goes on to identify problems and issues which need to be addressed. It recommends a strategy to intensify efforts at national, provincial, regional and district level to adopt such measures and steps, with the active involvement of all stakeholders including CBOs and NGOs, which help in reversing the trend of desertification and land degradation to improve the quality of life of the people affected. As the communities in arid/desert areas are poor, the trend of environmental degradation can be checked by reducing poverty and by the development of social infrastructure in the areas prone to desertification. In this connection the policies of the present Government for addressing poverty matches the objectives of the proposed NAP in achieving higher per annum growth rates in the agriculture sector, encouraging the participation of all the people in the development process, poverty community services, human resource development, extension of the physical infrastructure, population welfare, conserving natural resources and the protection of the environment.

A large number of non-profit NGOs are carrying out local government, social welfare and educational activities. Grass-roots NGOs with a focus on environment and conservation are active in various areas. National rural support programmes at federal level and Provincial Rural Support Programmes have been initiated and entrusted with the responsibility of fostering a network of grass-roots level institutions to enable communities to plan and develop their own development initiatives. These rural programmes by the Government support social activities and establish linkages with Government line agencies, donors, other NGOs and the private sector.

Women's participation in the implementation of the NAP is being encouraged, facilitated and supported through various ways and means including representation on different technical and consultative committees and their sub-committees, and organizing women's training courses at village level to

increase awareness about the threats of desertification and the benefits of good land-use practices and the need to conserve natural resources and protect the environment and so on.

The Government has a plan regarding the redistribution of assets, especially state-owned land. This can have a major impact on poverty reduction efforts in rural Pakistan. The Government has launched a programme of accelerated distribution of state-owned land to small farmers. The distribution of about three million acres of available land will be fully supported with the provision of infrastructure, technical packages for grain and other crops, effective application of fertilizer and all other possible input to combat desertification and rural poverty. A micro credit window has already been provided to the peasants from the Agricultural Development Bank of Pakistan, Khushali Bank and other financial institutions.

NAP implementation and the programmes defined therein will be, by and large, carried out by the provincial line departments, local government departments and rural support programmes with the involvement of CBOs and NGOs. National and provincial desertification control units/cells and NCCD will facilitate the integration of new and ongoing activities by working in harmony with provincial line agencies and other organizations involved. Implementation of projects jointly with a multidisciplinary approach will be attempted by participation of all the agencies involved.

There are proposals and programmes to strengthen capacity at local level through short-term professional training and farmers' training. However, these activities, to a limited extent, are being carried out even now under rural support programmes. The Government of Pakistan is committed and determined to implement the UNCCD. Steps and initiatives already taken or those under way in this direction include several policy, institutional and legal reforms and strategic changes that will facilitate the implementation of the NAP.

Activities and efforts already under way by several Government/private organizations, institutes, departments, NGOs and rural support programmes to combat desertification will be strengthened, integrated and supplemented through a nationally orchestrated, supported, coordinated and monitored system under the NAP. Out of the six TPNs, identified for the Asian region, Pakistan would be hosting a thematic programme for the Local Area Development Initiative.

The source of funding visualized for projects/schemes and all other activities recommended by the NAP will be from non-development and development budgets of the respective organizations/institutes/departments; incremental funding of the schemes and projects of the above organizations/departments/institutes from the proposed National Desertification Fund, in addition to their own funds. Moreover, federal/provincial public sector development programmes include allocations for agriculture, forestry, environment, water, rural development, women's development and social welfare/poverty reduction which can also be utilized for funding projects aiming at halting land degradation, as recommended in the NAP.

As regards the review of bench marks and indicators utilized to measure progress and assessment thereof, it is stated that in Pakistan project monitoring and evaluation fall within the purview of the federal planning and development division and provincial planning and development departments. The provincial planning departments have their environment sections, which are responsible for monitoring and evaluation of the environment-related programmes. They submit their quarterly, half-annual and annual reports regularly. Periodic reports and field visits are also taking place in the provincial environment departments. These departments are well equipped with skilled and professional staff. However, the NCCD is a coordinating body for the implementation of national desertification programmes.

PAPUA NEW GUINEA

The main obstacle encountered in the implementation of the UNCCD in Papua New Guinea (PNG) is that due to the title of the Convention, there was some misunderstanding and confusion amongst Government and NGO officials as to the aim of the Convention. However, after the first National Awareness Workshop it is hoped that most people in the relevant agencies will have realized that the Convention also covers drought as well as land degradation issues that are affecting the sustainable socio-economic plans of the country. The Convention is also related to other environmental aspects such as climate change, biodiversity, forestry, agriculture and water management.

It is realized that a significant amount of work in public awareness workshops or seminars on the UNCCD and its aims is required in order eventually to acquire public support and participation in the implementation of the UNCCD in PNG.

Some other notable barriers and considerations affecting the timely implementation of the UNCCD in PNG include:

- 97% PNG land is private land. Most landowners are very conservative. Any issue dealing with land in PNG must be handled carefully, as they have the potential to cause heated and serious arguments. More than 70% of the population live in rural areas and depend heavily on land for subsistence farming to sustain them.
- PNG is a third-world country that has only recently ratified the UNCCD, in December 2000. To date, PNG has not attended any UNCCD COP meetings as a Party. The first UNCCD National Awareness Workshop was held just recently, in January 2002.
- PNG, compared to other Pacific island countries, has a relatively large land area, 465,000 km². It is a country inhabited by more than 500 diverse ethnic and cultural groups who are the landowners, with 19 self-governing provinces that have a provincial government and local level governments.
- Relatively large constitution with different Government departmental development strategies and priority activities for sustainable development.
- Relatively poor economy with weak local currency.
- Although literacy has improved in general, adult literacy is still a problem in most rural areas.

- National elections in June 2002.
- Departmental telecommunication difficulties.

PHILIPPINES

The Second National Country Report on UNCCD implementation provides an update on Philippine initiatives to address concerns to mitigate drought and combat land degradation (desertification). Essentially, the country experiences seasonal aridity and thus focuses on mitigating drought and combating land degradation.

Seven elements in key thematic topics were considered in the preparation of the report, namely: participatory process; legislative institutional framework; resource mobilization and coordination; linkages and synergies with other environmental conventions; measures for rehabilitating degraded land; drought and desertification monitoring and assessment; access to appropriate technology, knowledge and know-how.

The report preparation is participatory and consultative in nature. A series of technical consultations and meetings were conducted to bring together collaborating agencies and stakeholders. Comments and sectoral inputs were solicited from the following: national Government agencies, academia, farmers' union, civil society, NGOs, international organizations, research institutions, local government units (LGUs), media and the affected population.

Also, the report preparation is integrated in approach. Efforts to seek linkage and synergy with two other related environmental United Nations conventions, the UNFCCC and the CBD, were initiated through the conduct of round-table discussions with NFPs. An awareness seminar on climate change (UNFCCC) provided substantial input on the organizational mechanism. A meeting with the NFPs and panel of experts also set in motion the creation of a proposed national coordinating body to unify common and related environmental concerns of the three United Nations conventions (UNCCD, UNFCCC and CBD).

In the consultation process, the proposal was made to form an authoritative body named the Philippine Technical Experts Cooperation Body (PTECB) for United Nations conventions. The Body is not limited to the three conventions but will also include all other related United Nations conventions.

Networking is an approach also taken to maximize resource mobilization and coordination. The National Soil and Water Resources Research and Development/Extension Network (NSWRRD/E) addresses the implementation of and complementary work on research and development programmes and projects relating to soil and water resources. Through the network linkages, the network research and development agenda is reviewed, formulated and prioritized; coordination, implementation and monitoring are harmonized and unified; strengthening of research and development and quality management is effected. The NSWRRD/E Network is currently administered by BSWM under the direction of the DA-Bureau of Agricultural Research (BAR). The Network

Organization consists of experts, member-institutions and focal persons, national state colleges and universities, regional member agencies, regional member state colleges and universities. The Farmer and Industry Advisory Committee (FIAC) for soil and water resources provides technical and related advice to the Network.

A review of the country's action on drought mitigation and combating land degradation considered the following:

- Strategies and priorities;
- Measures taken/planned;
- Financial allocation.

Essentially, the Philippine actions on environmental and development concerns are guided by two national plans, namely: the National Framework Plan for Physical Planning (NFPPP) 2001-2030 and the Medium Term Philippine Development Plan (MTPDP) 2001-2004, existing legislations and proposed bills, and international agreements and collaboration.

However, there is an emerging requirement to review and revisit and reorient the national plans in an effort to mitigate drought in view of the expected occurrence of the El Niño phenomenon in 2002-2003. Planning for emergencies is now a priority concern to mitigate drought, particularly in highly vulnerable areas of the country.

What are some of these major strategies?

- The NFPPP provides the policy option for specific land-use policy areas, which consist of Protection Land Use, Production Land Use, Settlements Development and Infrastructure Development. Protection Land Use covers land uses and physical resources that need to be protected, conserved or rehabilitated, including areas that require the prevention or mitigation of disasters. Production land use, on the other hand, deals with land uses and physical resources focused on economic production, from the extractive system to the modern service sectors (i.e., crop production, fishery, livestock and poultry production, timber production, agroforestry, mining, industry and tourism).
- The MTPDP pursues agriculture and fisheries modernization with social equity. Four major strategies to address this challenge include: promoting environmental sustainability, promoting broader participation of stakeholders in natural resource management, ensuring equitable access to productive resources and services, and encouraging value-added and technology-based forestry and natural resources production.
- To promote environmental sustainability, the country adheres to pursuing integration of environmental concerns in planning and decision making at all levels of bureaucracy, adoption and promotion of environment-friendly and sustainable lowland and upland farming and fishing practices, and adoption of an integrated ecosystem and watershed management approach.

- To promote broader participation of stakeholders in natural resource management, the country is committed to promoting broader participation of LGUs, civil society communities, other concerned national Government agencies and the private sector in the protection, sustainable management and development of the environment, to encouraging involvement of local communities and the indigenous people and promoting the use of indigenous knowledge systems in biological diversity conservation, supporting community-based natural resource management programmes.
- The country recognizes the need to strengthen resource information management in order to improve environment and natural resource management planning and decision making in order to ensure equitable access to productive resources and services.
- Also, the country will have to continue to strengthen technology generation and promotion, and commercialization programmes, especially the linkages among the technology users, private sectors, LGUs, state universities and colleges, DOST and DENR.

Legislation has made a significant contribution to enforcing drought mitigation and measures combating land degradation. There are a number of relevant issuances reflecting various perspectives relating to the environment, tenurial system, energy, governance and other components required to improve and sustain rural and urban development throughout the country. The legislative initiatives addressing land degradation include, among others, the Agriculture and Fisheries Modernization Act (AFMA), the Balanced Fertilization Strategy (BFS), the Philippine Environmental Code, and the Environmental Impact Assessment System.

The AFMA adopts the principle of rational use of resources. All sectors of the economy and all regions of the country are given optimum opportunity to develop through a rational approach to the allocation of public investments in agriculture and fisheries in order to ensure efficiency and effectiveness in the use of scarce resources. The Strategic Agricultural and Fisheries Development Zones (SAFDZ) is now the integrating framework for the allocation of public investments and focus of Government services and non-government support. The identified SAFDZ throughout the country are the prime agricultural areas that are currently and productively in use for agriculture. SAFDZ considered non-negotiable for conversion include the irrigated lands, irrigable lands already covered by irrigation projects with firm funding commitments and lands with existing, or a potential for growing, high value crops. Converting these areas to other purposes would raise issues relating to food security and land degradation.

The BFS is an enhanced production strategy to support the country's food sufficiency and security effort. The strategy places emphasis on the management of crop residues, farm waste recycling and a balanced combination of organic and inorganic fertilizers.

The LGC requires all municipalities and cities to prepare their respective comprehensive land-use plan and enact zoning ordinances which will be the primary and dominant bases for the future use of land resources. AFMA, however, requires the integration of SAFDZ into the comprehensive land-use plan.

Continuing efforts to enact legal instruments that address gaps and related environment and development concerns have progressed but slowly. The debate on the National Land-Use Bill, which began in 1993, has undergone parallel review, harmonization and consolidation from both chambers of the Philippine Congress and Senate early this year. The consolidated Senate and House bills underwent a number of technical consultations and discussions from stakeholders including national Government agencies, NGOs, public organizations and civil society. Regional consultations are currently being undertaken to ensure wider participation in the consultative process of the legislative agenda.

The draft National Land-Use Bill prescribes that the State shall pursue policies to guide the allocation, use and management, and development of land and water resources. The bill features a National Land-Use and Planning Framework, which defines land-use and allocation priorities. A general land-use classification and planning categorization is proposed.

Draft bills on the promotion of sustainable farming technology are currently being debated which include a House bill establishing the Sloping Agriculture Land Technology (SALT), and five House bills concerning the promotion of bio-organic farming.

Another strategy, which the Government of the Philippines recognizes is the necessity for worldwide coordination activities to control and prevent land degradation; through the Department of Agriculture and Bureau of Soils and Water Management, it cooperates with various international organizations such as ACIAR, IBSRAM (now IWMI), FAO, UNDP, JICA, APEC, IUSS.

Specific actions taken within the framework of the NAP that address land degradation are summarized into four groups:

- Conservation of soil and water and related natural resources and promotion of sustainable use;
- Increasing awareness of the character and impacts of drought and land degradation;
- Monitoring and evaluation of drought and land degradation and their effects;
- Improvement of the socio-economic environment.

Continuing efforts on conservation of soil and water and related natural resources and promotion of sustainable use included the conduct of programmes and projects under the NSWRRD/E Network, delineation and identification of NPAAAD and SAFDZ, identification of conservation and protection areas, and intensification of soil and water conservation measures and drought mitigation measures.

Effective communication among stakeholders is an effective way to mitigate drought and land degradation. To increase awareness, the following measures are being undertaken: environmental education included in formal education at all levels, advisory service through forecasts and warnings, and awareness programme.

Monitoring and evaluation of drought and land degradation is currently pursued through DOST-PAGASA and DA-BSWM. Ongoing efforts are focused on collection, analysis and monitoring of information on the extent and intensity of drought and land degradation which serve as input to the publication of early warning information or bulletins, the conduct of a research and development programme aimed at developing new tools or improving current tools being used in monitoring and forecasting, and collection and analysis of productivity indicators that assess the impacts of drought and land degradation on land quality in terms of productivity levels.

Improvement of the socio-economic environment is currently addressed through intensive crop production through the DA banner programme "Ginintuang Masagang An" (GMA), implementation of a people-oriented forestry programme through DENR, and providing access to the means of agricultural production through the CARP and the GMA Countrywide Assistance for Rural Employment and Services (CARES). CARP enables small farmers to have access to the means of production through tenurial arrangements, while GMA CARES provides the credit and guarantee mechanism.

The review of current actions reveals the need to integrate the following into the preparation of a NAP to mitigate drought and combat land degradation:

- Reversing land degradation in critical areas;
- Arresting, mitigating the impact of drought and combating land degradation;
- Establishment of a comprehensive database on drought and land degradation and setting up of a web-based system;
- Baseline study on perceptions of and attitudes towards drought and land degradation;
- Formulation of communication and advocacy plan.

Current efforts to intensify implementation of DA, DAR, DENR banner programmes have to be continued and pursued with a greater focus on addressing the vulnerable groups.

Financial allocation and funding support is also a very important consideration. Funding sources for the NAP to mitigate drought and combat land degradation are the regular budget of the agencies involved with the action programme, AFMA budget of the DA, ODA, and local financing from Government financing institutions. Access of local stakeholders to funding sources is dependent on the NAP's being prepared and subsequently adopted by the Government as a priority programme.

A review of benchmarks and indicators for each of the measures currently taken to address drought and land degradation was done and validated with the concerned stakeholders. The indicators relating to soil and water conservation include the type and extent of degradation, adaptors of technology, number of beneficiaries, and the extent benefited. Indicators of increasing awareness on the character and impacts of drought and land degradation include the kind and number of information materials produced and disseminated, the number of advisory services and forecasts issued, and clientele served. Indicators on monitoring and evaluation include land

quality and their productivity levels, early warning information or bulletins, and new tools for monitoring and forecasting. Indicators of improving economic environment include area coverage, number of beneficiaries, and yield and income.

Summary of the process for the national report preparation

The preparation of the National Country Report is a product of a collegial approach, which took into consideration the collective efforts of various Government and private institutions in the mitigation of drought and land degradation in various parts of the country.

As an initial step, the focal persons of key institutions and stakeholders were identified and met for a general assessment of topics that cut across agencies' and stakeholders' concerns. These series of informal meetings (we had about 3-4 informal round-table discussions at the Bureau of Soils and Water Management) set the course for a wider consultation in Davao where a National Conference in September 2001 was held to create awareness of the issues and potential problems relating to the phenomenon of drought and land degradation. In that forum, eminent persons on the topic attended and played a major role in the exchange of information and specific concerns. More important was the participation of no less than the National Director of the Bureau of Agricultural Research and the key researchers of the Network of National Research and Development on Soil and Water Conservation, which actively provided feedbacks on the results of the consultation.

The informal meetings allowed us to firm up the National Report preparation with the help of key people from academia, particularly the University of the Philippines and the Central Luzon State University, who provided important technical analysis of current and future actions against drought and land degradation.

Having gained access to all key stakeholders and decision makers, we took the next critical step, which was to harmonize our results/findings with the NFPs of other related United Nations conventions (biodiversity and climate change), to resolve cross-cutting issues and concerns and to unify/harmonize our approach to these interrelated conventions. To accomplish this, we conducted round-table discussions (held two small group meetings with the representatives of academia and one meeting with senior officials of various departments) and a formal conference with the focal points attended by about 50 key persons in all departments involved and actively supporting the United Nations cross-cutting concerns on drought and climate change and their impacts on land degradation and biodiversity. As a final agreement, the proposal was made for the establishment of a body that would harmonize the three conventions, the Philippine Technical Experts Cooperation Body (PTECB), as the NCB for the three related United Nations conventions.

As a follow-up to these efforts, the BSWM, together with other agencies, has scheduled a series of brief meetings within the next two weeks with the country's legislators to come up with a possible approach to formalizing the PTECB. The initial meeting will be started with a dinner meeting with the Chairs on Agriculture and Environment Concerns in the Senate and the

counterpart Chair for the Congress. The main objective of the meeting is to get an agreement with them as to whether the PTECB will be created by Executive Order or by issuance of Congress.

REPUBLIC OF KOREA

Through the long history of Korea, wise forest management for controlling droughts and floods on forested watersheds has been a prior policy of all dynasties. But during the first half of the twentieth century, including the Korean War, severe deforestation had occurred throughout the Korean Peninsula, due to widespread illegal cutting and over-cutting.

Since the early 1960s, in parallel with the Economic Development Plans, rehabilitation of forestlands has been strongly propelled in order to green the country again. In 1973 the first 10-year National Forest Plan was launched to complete the rehabilitation of denuded forestlands and to enhance protection of the existing forests. The subsequent National Forest Plans have been implemented for improving forest resources and consequently providing augmented economic and environmental benefits.

Korea is currently well known as one of the most successful countries in its achievement of reforestation. Although there is no desert in Korea, droughts during the rainless season have increased since meteorological records were started. Droughts may cause the potential danger of disastrous forest fires in Korea. Meanwhile, the dust storms containing a yellow sand blowing from the north-eastern desert of China and Mongolia have influenced the environmental and economic aspects. This trans-boundary environmental issue allows the public and Government to recognize the role of forests in conservation of nature.

On the basis of public recognition, governmental and non-governmental organizations are interested in preventing desertification through bilateral and multilateral cooperation among countries. At the present time, several bilateral cooperative projects funded by the Korean Government are being implemented in China and Mongolia. Also, cooperative research projects include monitoring the occurrence of the dust storms and developing effective countermeasures. On the other hand, the north-east Asia Forest Forum (NEAFF) as one of the NGOs is actively extending its activities to enhance public awareness of the desertification and devastation of forests in the countries of north-east Asia.

SAUDI ARABIA

This report is prepared according to UNCCD document ICCD/CRIC(1)/INF.5 and communication with the UNCCD secretariat. It will highlight the Kingdom of Saudi Arabia's efforts on sustainable development and combating desertification. The Kingdom of Saudi Arabia lies in a continental west dry desert belt with frequent drought cycles. The Kingdom is therefore very vulnerable to recurrent droughts and desertification. The Government very early (during the 1960s) started conservation measures for its renewable

natural resources and has taken actions to combat desertification and mitigate the effects of drought. Considerable attention was paid between 1960 and 1990 to conserving soil, water and natural vegetation cover. Major efforts were also exerted on resource inventory, evaluation, development, conservation and proper utilization. Great emphasis was placed on the improvement of technical skills, institutional arrangements and the development of infrastructures crucial for both national development and environmental conservation.

The Kingdom incorporated all activities relating to conservation and development of renewable natural resources into its annual Five-Year Development Plan, building upon chapter 12 of Agenda 21 and the UNCCD and benefiting from international experience and efforts. The Kingdom also made the commitment to support efforts in this direction at the subregional, regional and international levels.

The strategy and NAP to combat desertification were developed in accordance with the guidelines stipulated in the Convention and the Asia Annex.

The Kingdom participated in the relevant regional and subregional conferences and meetings on conservation and development of renewable natural resources, particularly those relating to SRAPs to combat desertification in West Asia. The Kingdom is actively involved in implementation of ongoing activities such as projects on sustainable management of vegetation cover and water resources (TN1 and TN2). The Kingdom also participated on the regional TPNs on rangelands and sand dune fixation (TPN3) and water resources management (TPN4) and other regional networks.

The National Committee for Preparation of the Strategy and NAP to Combat Desertification held several meetings during 2001 and 2002. The draft of the document was developed with technical assistance from the UNEP Regional Office for West Asia (UNEP/ROWA). The document is expected to be finalized and approved in 2002.

Several actions were also taken to ensure the effectiveness and success of the efforts and programmes to combat desertification and conserve renewable natural resources and the environment. These actions include: institutional development, bibliography and literature gathering of subjects relating to desertification, and monitoring and evaluation of impacts of desertification. The Kingdom's experience in development and conservation of its natural resources was critically evaluated. Monitoring and impact assessment was implemented and favourable results were used for wider application while negative actions were abandoned. The monitoring and evaluation exercise was useful in establishing a database relevant to desertification at the national, subregional and regional levels. The result was also used in the preparation of new legislation and regulations for conservation, proper utilization of renewable natural resources and protection of the environment. This was also used in updating of previous regulations.

Several actions are currently under way in the capacity building of national staff to enhance their skills in using modern technologies and methods in the implementation of NAPs. This will help in meeting national objectives,

policies and strategies and in conforming with relevant articles in the Convention.

The Government has emphasized the need for adoption of a comprehensive national programme, which should be extended to all the regions in the Kingdom for all stakeholders in civil society, of capacity building for the conservation and development of natural resources and the environment.

The NAP includes the following:

Strategies and priorities established within the framework of sustainable development plans and/or policies

It was pointed out in the Kingdom's first report that the following strategies were being adopted:

- National strategy for health and environment;
- Strategy and NAP to combat desertification in conformity with chapter 12 of Agenda 21;
- Strategy and national action plan on conservation of biodiversity (under preparation);
- National plan on coastal zone management (draft);
- National strategy for the environment (under preparation).

Now the following strategies are under preparation:

- National strategy for the environment;
- Strategy and national action plan on biodiversity conservation;
- National strategy for forests;
- National strategy for tourism;
- Updating and completion of the national plan for water resources.

Institutional measures taken to implement the Convention

This topic was addressed in greater detail in the Kingdom's first report. Several institutions and committees crucial for conservation of renewable natural resources and the environment were initiated, the most important of which were:

- Approval of the establishment of a new Ministry for Water. The new ministry will include all sectors of relevance to water. The purpose of establishing the new ministry is to emphasise the importance of water and conservation of all water resources;
- Establishment of Supreme Tourism Authority;
- Establishment of Saudi Agency for Geologic Survey;
- Establishment of the Supreme Council for Investment;
- Establishment of the National Committee for the preparation of a concrete action programme for preparedness for natural disasters.

Participatory process in support of preparation and implementation of NAPs

As soon as the Kingdom became a Party to the UNCCD in 1997, it established a National Committee. The Committee consists of representatives from all Government ministries and agencies pertinent to desertification and renewable natural resources and was mandated to prepare the Kingdom's NAP to combat desertification. The members of this committee include:

- The Ministries of Agriculture and Water, Interior, Finance and National Economy, Higher Education, Planning, Municipality and Rural Affairs, Communication and Information. Specialized institutions such as the King Abdulaziz City for Science and Technology, the General Council for Meteorology and Environmental protection, the National Commission for Wildlife Conservation and Development and the Prince Sultan Centre for Environment, Water and Desert Research (King Saud University) are also members of the National Committee. The Committee had several meetings in 2001 and 2002, and the draft document for the NAP was completed with technical assistance from the UNEP/ROWA.

Activities relevant to combating desertification that have been implemented

The NAP has not yet been adopted, but several relevant programmes are under implementation. The most important operational projects are:

- a) Inventory and evaluation of range and forest cover throughout the Kingdom;
- b) Updating of studies about water resources;
- c) Review and updating of existing legislation and regulations pertaining to renewable natural resources, i.e. range and forestry, water resources conservation, general regulations for the environment, use of treated sewage water in irrigation, unified regulations for agricultural (plant and animal) quarantine for countries in the Gulf Cooperation Council. The draft of the NAP also includes effective implementation measures in development and conservation of renewable natural resources such as:

- Rehabilitation of deteriorated areas and improvement of their productivity through implementation of relevant programmes (afforestation, sand dune fixation, establishment of protected areas, etc.);
- Community participation in the development, management and conservation of renewable natural resources (through environmental awareness campaigns);
- Expansion in management and utilization of non-conventional water sources (treated sewage water, agricultural drainage water, saline water, etc.);
- Detailed hydrologic studies were conducted in regions where detailed hydrologic studies had not been carried out in the past;
- Updating and upgrading of national hydrologic net (weather stations, flood gauges and stream flows, test wells, etc.);
- Conservation and proper use of renewable natural resources through implementation of national legislation, regulations and national campaign programmes targeted at resource conservation;

- Capacity building and human resource development through special training programmes for all stakeholders in the area of desertification control and conservation of renewable natural resources;
- Raising the awareness of all categories of civil society of the importance of renewable natural resources and significance of their conservation, by implementing a comprehensive extension programme through the national mass media;
- Conservation and development of renewable natural resources to be incorporated into the school curriculum.

Financial allocation from national budgets
to support the implementation of the NAP

Allocation of funds is made in the annual national budget for development and conservation of renewable natural resources (soil, water, vegetation cover, agricultural production of both plants and animals, wildlife, etc.) through the specialized Government institutions involved in renewable natural resources such as the Ministry of Agriculture and Water (responsible for water, soil, range and forestry, national parks and animal production), the National Commission for Wildlife Conservation and Development, the General Administration for Meteorology and Environmental Protection, the Presidency for Meteorology and Environmental Protection, the Ministry of Municipality and Rural Affairs, the King Abdulaziz City for Science and Technology, and universities and research centres.

Community-based projects initiated at district levels by the local communities and carried out by specialized technical agencies are funded when approved by the supreme council of the Government in each region. The private sector makes modest contributions to renewable natural resources and particularly to wildlife conservation and development.

Review of benchmarks and indicators utilized
to measure programme and assessment thereof

The Government has set up a monitoring network using relevant standard guidelines and parameters for different resources. New projects aimed at improving the monitoring guidelines and comprehensive actions were taken on the following:

- Inventory and evaluation of the vegetative cover of the Kingdom by a multi-disciplinary team;
- Survey, inventory and evaluation of wildlife;
- Inventory and evaluation of some agricultural lands;
- Inventory and evaluation of the status of water in some regions of the Kingdom.

SINGAPORE

Climate variability, coupled with rapid urbanization and excessive consumption by affluent populations, has exacerbated many of the major global environmental problems confronting the world today. These environmental problems include global warming and climate change, ozone layer depletion, the management of hazardous wastes, deforestation, rising sea-levels, and desertification. The global community, in recognition of the potential adverse ecological and economic ramifications, has sought to collectively address the root causes of these environmental challenges. Many nations have recognized that international cooperation is necessary to achieve an ecologically and economically viable future. In addition, it has become increasingly clear, within the global community, that nothing less than a transformation of our attitudes and behaviour towards the environment will bring about the necessary changes required to ensure the sustainability and survival of the global environment.

Singapore subscribes to the principles of sustainable development. Singapore also believes that the support of the international community is necessary to achieve a more sustainable future for the world community. In this regard, we are appreciative of the efforts of the United Nations and its active involvement in global environmental concerns. Singapore has participated in many multilateral agreements on environmental issues ranging from protecting the ozone layer to protecting biodiversity and endangered species. It ratified the UNCCD in December 1998.

In addition, Singapore has also demonstrated its commitment to sustainable development by running an extensive range of programmes to provide technical assistance and environmental technology transfer to other countries. Singapore has hosted several training programmes on urban environmental management and other environment and public health-related programmes through the Singapore Cooperation Programme (SCP). These were offered either bilaterally through initiatives such as the Small Island Developing States Technical Cooperation (SIDSTEC) Programme and the Singapore Technical Assistance Programme for Sustainable Development (STAPSD), or in cooperation with more than ten Third Country Training Programme partners such as Australia, Canada, Norway, the Republic of Korea, the World Bank and the Asian Development Bank. To date, over a thousand participants from nearly eighty developing countries have benefited from such training. Besides environmental training, the SCP also provides technical assistance in areas such as finance, English language, information technology, public administration and economic development.

In addition to international efforts, each country also has a responsibility to preserve its own environment. Looking at where Singapore is now, after 40 years of industrialization, we believe that we have achieved economic growth without neglecting our environment. We have managed, within our limited resources, to strike a balance between development and the environment. This has been our policy since the 1960s and we will not deviate from it. Desertification is not a problem that directly affects Singapore. However, rapid urbanization has subjected our fragile natural ecosystems to severe stress. As our population increases, the pressure for more land to

accommodate development needs naturally accelerates alongside the increased demand for an attractive and comfortable living environment.

SOLOMON ISLANDS

This report briefly examines, and is intended to provide some insight into, the efforts and activities undertaken by the Government of the Solomon Islands in its commitment to implementing the UNCCD in the Solomon Islands. The issue of land degradation, being one of the integral features of desertification, has been recognized in the Solomon Islands over recent years. Causes of the problem and associated adverse effects on the country's environment have been attributed to a number of factors. The Solomon Islands, like other developing countries in the third world encumbered with the daunting task of promoting their economic growth, largely depends on its natural resources and in particular its land resource to achieve this.

Being a predominantly subsistence-based economy with greater dependence on the primary sector for its sustenance, the Solomon Islands is very vulnerable to experiencing land degradation issues. This development trend in certain sectoral activities such as agriculture, forestry and fisheries dominating the export sector is further compounded by the country's high population growth rate, being one of the highest in the world. Furthermore, the rural nature of the country's population distribution, whose survival and existence relies heavily on exploiting the surrounding environment, makes land degradation even more a cause for concern for the country.

SRI LANKA

Sri Lanka falls within the scope of the UNCCD, though the country is not within the range of desert area specified by the UNCCD. At present no real desert areas exist in Sri Lanka, although there may be a possibility that especially the dry and arid zone areas in the country currently faced with severe land degradation may gradually face desertification if no cohesive and planned action is taken to resolve the related issues.

Land is considered as the most important and heavily threatened natural resource in the country. Sri Lanka is a predominantly agricultural nation, where land ownership is considered as a social and economic status. The sustenance of the agriculture sector, on which the economy of the country is heavily dependent, is directly linked to the systematic management of the land under cultivation. At present about 37 per cent of the people in the country are dependent on land-centred activities for their sustenance.

In the dry and arid zones of the country the widespread land degradation issues are mainly related to waterlogging and salinization caused by human interventions, such as deforestation, unsustainable agricultural practices, poor water management and the intense drought conditions. However, land degradation in the country is not confined to the dry zone areas alone. The wet zone in the country is also subject to severe land degradation, mainly

due to soil erosion. In addition, the coastal areas are also subject to sea erosion caused mainly by human interventions.

The widespread land degradation in the country is the result of improper land management and misuse of land. Soil erosion is regarded as the main form of land degradation. Besides causing loss of productivity, soil erosion sets off a host of off-site adverse environmental impacts, such as damage to downstream agricultural land, pollution of coastal waters, and aggravated flood effects, which cause serious losses to the economy. The clearing of land for plantation agriculture, the cultivation of tobacco and vegetables on sloping lands, nationalization of plantations and subsequent neglect in management, and the setting up of large-scale irrigation and hydropower schemes and settlements have all contributed to soil erosion in the country.

Although the direct causes of land degradation are well known, the underlying causes that give rise to direct action cannot be overlooked. These include socio-economic factors such as inappropriate tenurial patterns, poverty, landlessness, lack of alternatives for livelihood, and mostly population pressure. An analysis of the issues reveals that land degradation has its roots most deeply embedded in the problem of tenure insecurity. Hence, tenure insecurity has often and again been cited as a vital issue to be addressed in any major-scale initiative to combat land degradation. Over the years the solutions to land degradation have mostly consisted of policy and institutional responses which focus on the symptoms rather than the causes.

Over the years many initiatives and measures have been taken to reverse the trends in land degradation, including enactment of laws and regulations and formulation of policies as well as through the establishment of institutional mechanisms. However, there is much more to be done in resolving the issue and in sustainable land resources management. It is in this regard that land resources are considered the most important natural resource in the country and combating land degradation is a priority in the national agenda.

In this context, the UNCCD is of great importance to Sri Lanka, as it provides a basis for facilitating efforts towards addressing land degradation issues in the country. This can also be used as an opportunity to share experience and knowledge on the subject with other countries and to learn from one another. This would enable Sri Lanka to obtain the necessary skills and capacity so that the country could positively contribute towards the national efforts in dealing with land degradation and, most importantly, avoid such calamities in the long term.

This report highlights the developments and initiatives taken with regard to addressing land degradation issues in Sri Lanka. The report covers the period between the first report and the present. The analysis of the present situation provides an insight into the status with regard to the main issues, causes and effects relating to land degradation in the country. The recommendations provided in this report are expected to provide some insights into the development of the NAP in Sri Lanka.

The draft report was circulated at a national workshop attended by stakeholders and experts in the related sectors and also to the National Expert Committee on Land Degradation, and discussed in detail. The report presented here has included all comments and suggestions made at these forums.

SYRIAN ARAB REPUBLIC

Introduction

The Syrian Arab Republic is located in the Eastern Mediterranean zone, whose area is 180179.71 km² with a population density estimated at 93.4/km². The territories in which the average rainfall is less than 200 mm/year comprise about 55% of its area. This makes it possible for its fragile soil to be exposed to sudden collapse. Due to the increasing pressures on natural resources in the past few decades, among which is the soil, the phenomena of desertification and land deterioration have appeared in different forms such as: wind erosion in Al-Badia and water erosion in the areas of high rainfall averages as a result of the collapse of the plant cover, and salinity of lands as a result of the use of traditional irrigation methods, as the area of degraded lands in Syria reaches 18% of the total area.

In support of the hard and continuous efforts to stop the degradation of lands, and to put an end to the phenomena of desertification and to avoid their negative effects and depending on the principle of participation and cooperation with the international community, Syria ratified the UNCCD in 1997 and it works to execute its obligation to that.

What will be presented in this report, which was prepared by the Directorate of Lands at the Ministry of State for Environmental Affairs (MSEA), and in cooperation with the ministries, institutions, popular organizations and vocational syndicates concerned and with support from the secretariat of the UNCCD, is a summarized brief of the efforts made and the arrangements taken to execute the Convention in addition to the stages of its progress.

Plans, strategies and policies of the national development concerning combat desertification - national plans and strategies

Plans for development

The programmes of combating desertification and towards environment conservation were included in the plans for economic and social development for the periods 1991-1995 and 1996-2000 and the ninth development plan of 2001-2005 which is now under discussion in the Prime Minister's Council. The primary aim concentrated in this plan is to get out of the traditional view of irrigation by composing a full programme for developing Al-Badia, administration of pastures and increasing the services available to the population communities, reclassifying the forestry zones and their environmental divisions to invest them economically, to support the governmental systems and to fight fires.

The plan concentrated on the consolidation of the current projects in addition to the composition and execution of several new projects aiming to combat desertification, and improving the standard of living level of rural societies. One of the most important of these projects is the Al-Badia Development Project, which includes several activities, among which are:

- Performing environmental surveys of natural resources;
- Biodiversity conservation;
- Reclamation of lands effected by salinity;
- Construction of a network for aerial meteorology stations;
- Establishing permanent environmental meteorology stations in the different Syrian regions.

a) The national plan for environmental work

The primary frame for a National Environmental Strategy was prepared in 1995 and it included the national environmental plan in addition to the programmes of environment on the level of the water basins in the country. Currently, this strategy is under modernization to present it to the National Environment Conference suggested for 2002 in Damascus. Among the environmental national directions included in the plan are:

- Stopping land degradation and combating desertification;
- Rationalizing the use of water resources quantitatively and qualitatively;
- Improving environment-specific characteristics in the rural regions;
- Decreasing the harmful effects of pollution phenomena on public health;
- Preserving the cultural and natural resources.

b) The National Agenda for the Twenty-first Century (schedule of works for the twenty-first century)

A mechanism was prepared by the Ministry of State for Environmental Affairs to execute and follow up the programme of the Agenda 21. The total aim of the mechanism is to encourage and improve integration between environmental and developmental affairs at a national range with the goal of realizing sustainable development.

c) Convention on Biodiversity

Syria ratified the Convention in 1995 and established a unit for biodiversity at the Ministry of Environment, being the focal point for the Convention. A national study on biodiversity was prepared in 2000. Currently, a national strategy for biodiversity is under preparation.

d) Agricultural policies

These aim to conserve natural resources and to invest in them in a way leading to improve economic and social development. The most important objective is to stop soil degradation and combat desertification for sustainable development.

e) NAP to combat desertification

The NAP was prepared in 1995 in a mutual effort between the Ministry of State for Environmental Affairs and the Arab Organization for Agricultural Development (AOAD) and in cooperation with the Ministry of Agriculture and Agrarian Reform and all departments concerned in combating desertification. The objectives of the programme included the application of what was agreed upon in the UNCCD. The programme included 33 urgent, medium and long-term projects.

The institutional measures taken to implement the Convention
(the legislative or institutional frameworks or arrangements)

Several ministries and institutions work directly or indirectly in combating desertification and in drought mitigation. They are:

Ministry of State for Environmental Affairs

- This works to coordinate efforts on all issues concerning environment protection including combating desertification;
- To put in place an integrated policy of combating desertification and drought mitigation;
- To include the concept of environment preservation and combating desertification in teaching courses at the different levels;
- To raise awareness about combating desertification.

The Directorate of Lands at the Ministry of State for Environmental Affairs plays the role of the NCB in all affairs connected with the UNCCD including the project of the NAP.

Ministry of Agriculture and Agrarian Reform

- This is the main department which executes several projects relating to combating desertification and conservation of natural resources, such as conservation of soil, plant cover, establishment of protected areas, pasture plantation and providing water for the inhabitants of Al-Badia and their cattle.

Ministry of Irrigation

- This performs several activities in the field of combating desertification, such as studying water resources, following up their levels, developing them, protecting them and prohibiting their pollution;
- It puts in place the plans, duties and programmes concerning water according to the priorities imposed, and executes them;
- Land reclamation;
- It hosts the TPN4 of the Convention.

Ministry of Local Administration

The following are among its activities:

- To establish green bands around cities and villages;
- To prohibit the pollution of water resources and control them.

Ministry of Housing

This plans housing projects, taking into consideration the continuance of the fertile agricultural lands. It prepared a legislative text to amend the law no. 44 of 1960 concerning the prevention of creeping random building expansion into the agricultural lands and to expand the re-use of sewage water after its treatment.

Ministry of Information

- The Ministry of Information plays a great role in the promotion of awareness of the importance of combating desertification and in avoiding the disasters of drought through the means of media programmes and information bulletins.

The educational institutions and research centres

These include universities, higher and intermediate institutes and scientific research centres. All are participating in the duties of:

- Preparation of qualified technical cadres to work on the issues connected with environment protection in general;
- Planning, execution and administration of scientific researches specialized in environment protection and combating desertification;
- Inclusion of environmental concepts and natural resources conservation, especially the soil, in educational courses from the elementary stage to the university stage.

The popular organizations

- Peasants Union: This is a large NGO working in the field of combating desertification through implementing several activities such as awareness days, protection of the Al-Badia region and planting of shrubs and pasture seeds;
- Youth Union: This is an organization working widely in the field of environment protection, combating desertification and expansion of the area of the green zone;
- Women's Union: This is a popular organization interested in women's issues and strengthening women's active role in environment protection and combating desertification. The union has organized awareness days for women in several counties of Syria about the importance of application and execution of the UNCCD.

The participatory process in support of the preparation and implementation of the NAP (participatory processes involving civil society, NGOs and CBOs)

- At the national level: the ministries and departments concerned participate in the committees specializing in combating desertification, such as the National Committee for Combating Desertification and both Technical and Steering Committees for the project of the NAP to combat desertification in Syria, in addition to including the concept of the environmental dimension in the policies of several ministries in the Government, especially in the programmes of education in their different stages.
- At the Arabic level: Syria is considered to be an active member in the Steering Committee of the Combating Desertification Programme, increasing the area of green zone and the environmental support of Al-Badia relating to the Arab League. It cooperates with the Arab organizations concerned with the problems of desertification, soil degradation and agricultural development such as the Arabic Centre for the Studies in Arid Zones and Dry Lands (ACSAD) and the Arabic Organization for Agricultural Development.
- At the subregional level: Syria hosted the first regional meeting for western Asia, which resulted in the accrediting of the water resources network for western Asia as the International Centre for Agricultural Researches in the Dry Areas (ICARDA), to facilitate and run their matters and the network of the Administration of Plant Cover for the Western Asian countries, which matters are coordinated by ACSAD, with the understanding that the centres of both ACSAD and ICARDA are located in the Syrian Arab Republic.
- At the regional level: Syria hosted and supported the fourth Asian Thematic Network for Water Resources Management for Agricultural Purposes in the arid and semi-arid Zones, TPN4. It was decided that it would be launched in July 2002. Syria participated in the other Asian networks. Currently, the arrangements to host the Asian meeting for the UNCCD NFPs in Asia in Damascus are under preparation.
- At the international level: Syria is committed to the application of the articles of the UNCCD through the execution of several projects, specially in combating desertification, and it has formulated the NAP to combat desertification, in addition to its cooperation with the international organizations and participation in the international conferences relating to combating desertification and their committees.

Measures taken or planned within the frame of the NAP (measures for rehabilitation of degraded land, for early warning systems and for mitigating the effects of drought)

Several arrangements have been taken within the frame of the national work. The primary concern of all of these was combating desertification, such as the application of legislation (laws of forestry, law of prohibition of cultivation, law of prohibition of wild hunting).

Several projects have been executed and some of these are still under execution in order to stop land degradation and to mitigate drought as the project of Al-Badia development which includes in some of its activities: the construction of the pasture nurseries and making protected zones, the project of sand dune fixation and the project of planting forestry trees, in addition

to the projects of agricultural development in the different zones. This is from the agricultural aspect.

In the aspect of irrigation, the country was divided into seven water basins in which the water resources were identified and the necessary plans were put in place to rationalize consumption of water in order to keep it from exhaustion and pollution.

Among the projects executed are the projects of Integrated Management of Water and the project of Management of Demand for the non-traditional water resources in addition to the activities of erecting dams and land reclamation.

Environmentally, preparation was made for the NAP to combat Desertification in Syria.

Among the other planned procedures are to save 40 billion Syrian pounds to convert the traditional irrigation methods into modern irrigation ones, construction of Al-Badia and combating desertification institutes and including all environmental concepts, among which is the incorporation of combating desertification and land degradation into the education courses.

The legislative and executive procedures all aim to preserve the natural resources and to use them in a way realizing the principle of sustainable development.

Financial allocations (resources of national and international financing cooperation including the agreements of partnership)

The Government has indicated its obligation to provide financial support to the projects directed at combating desertification and development of sustainable existence, and exploitation and management of natural resources. It has contributed to the performance of the objectives of these projects through full national financing with the large amounts indicated in the report and by joint financing with the UNDP programme or by loans from other financing resources.

In this way, we see the range of the interest paid by the Government in financing the projects nationally, and the value of the efforts made towards combating desertification in spite of the various difficulties which must be overcome, such as: shortage of financial resources and the low level of public awareness towards the issues of desertification, together with the need to develop national experience.

A review of the benchmarks and indicators utilized to measure progress and an assessment thereof (access of affected country Parties, particularly affected developing country Parties, to appropriate technology, knowledge and know-how)

The extinction of many wild settling animals and birds or their rarity and the reduction of some green areas, all form indications of the spreading of the phenomena of desertification.

This matter has obliged the Government to execute a number of activities specific to the combat of desertification such as re-qualifying the pasture lands and establishment of protected areas for wild life in the Syrian Al-Badia, and other activities which together composed the total signs and indicators for evaluation in general and particularly for observing the phenomena of desertification.

We must see benefit from the results of the experiments and procedures executed for obtaining indicators which assist in the definition and diagnosis of the phenomena of desertification, such as accrediting the modern techniques of irrigation, crop rotation, and a decrease in the proportion of burned areas of the forests, as a result of the projects of protection of the forests and consequently a decrease in the ratio of the lands experiencing deterioration.

TAJIKISTAN

Strategies and priorities established within the framework of sustainable development plans and/or policies

Analysis of the development of the economy of the Republic of Tajikistan over recent years shows that, as a result of the measures accepted by the Government on realization of structural transformations in the economy and acceleration of economic reforms, essential growth on a number of economic parameters is being achieved.

In spite of difficult environmental conditions, when for three years in succession a drought and water shortage in the rivers was observed, the volume of total production of the country's agriculture has increased. In this matter the basic role is played by the public sector.

Earlier, only State agricultural enterprises existed in the country, and their number totalled more than 1,200. As a result of reforms, non-State sector has been conducting agriculture works together with the public sector. Up to the present time, more than 12 thousand farms have been formed, out of which about 50% control their agricultural areas. For reforming State agriculture enterprises and transforming them into non-State type of farms, three decrees of the President of the country and three decisions of Government have been accepted between 1999 and 2002. This has resulted in the rational use and protection of lands.

The problem of desertification in the Republic remains very urgent and the Government of the country undertakes everything it can to overcome this problem. However, there is a difficult economic situation, so this problem remains unresolved. It is only possible to prepare and to accept some important programmes on protection of nature and in particular on combating desertification. In the period after the drawing up of the first national report, the following measures have been accepted:

In order to satisfy the needs of the population and national economy of the Republic for grain and grain products, and to increase the level of food safety in the country, the Government accepted in 2000 the programme on increasing the productivity of grain cultures and increasing production of grain in the Republic of Tajikistan in 2001-2005.

In order to overcome the recession in agriculture and to adopt measures on improvement of this branch with the purpose of increasing the volume of production, the intermediate-term programme for ending the crisis of agriculture in the Republic of Tajikistan and on priority ways of the development strategy of its branches for the period up to 2005 was accepted in 2000.

The elimination of infectious and other diseases and stopping the deterioration of public health is particularly necessary in the countryside. In 2001, the Government adopted the concept of the reform of public health services in the Republic of Tajikistan.

In order to overcome the process of desertification in the country and according to the context of the UNCCD, the decision of the Government on the adoption of the national action programme (NAP) to combat desertification of 30 December 2001, no. 598, was taken. This programme is the basic document of the country on combating desertification.

At the present time, a number of basic documents are at a stage of adoption, the realization of which includes addressing the problems relating to combating desertification. Among them is the National Programme to Combat Poverty.

Scientific and technological activity on combating desertification and mitigating its effects is one of the basic indicators, as all reasonable decisions should be scientifically proved.

There is the scientific experience in combating and controlling desertification in Tajikistan. For this purpose, a number of research institutes had been created. These institutes were engaged in various methods for overcoming land degradation and drawing up maps of the desertification zones as well as ordering supervision for rangelands degradation with the help of geobotanical inspections. All these measures were basically financed from the State budget. These and other measures taken earlier are now suspended, in accordance with the difficult economic situation for more than 10-15 years.

The NAP, in particular its section on strategy of actions, contains various scientific and technological activities for the control of desertification, such as: development of a series of maps on the desertification process, remote methods of research, organization of stationary methods for control of the desertification process and a number of others.

It is necessary to note that the inclusion in the reports of this problem for some countries, in particular for Tajikistan, is premature, as any scientific and technological action on the control of desertification requires certain

means, and such means our country at this time does not have. However, according to the requirements of the Convention for this purpose, there are country partners - donors - which should render direct assistance to those countries which are not capable of overcoming this process alone.

In this connection it is necessary for the secretariat of the Convention to act on this question and raise the question of partnership among the Parties at the next Conference of the Parties and at forthcoming World Summit on Sustainable Development.

Institutional measures taken to implement the Convention

For the period after the drawing up of the first national report, according to the decision of the Government of the Republic of Tajikistan, the National Coordinator and State Body were appointed by the State Committee for Land Management and Ministry of Nature Protection at the time of adoption of the NAP to coordinate its implementation.

This Committee is a State body with experience in work on desertification problems and land degradation. It is engaged in development of uniform policies and realization of decisions in the field of land use and land relations. It carries out the State control of effective utilization and protection of land resources, of registration of all land users, and also of development and realization of the State programmes in this field.

In Tajikistan, basically, all national focal points of the United Nations conventions are nominated according to the decision or order of the Government. In particular, the national focal point for the UNCCD was appointed by the order of Government of the Republic of Tajikistan of 19 April 2001, No. 30-F. He is supposed to prepare the annual report on the work done on implementation of the Convention's requirements in the country, i.e. on realization of the Convention, contracts and international agreements in the field of combating desertification and supervision over a course of financing both from the State and from various international and local organizations.

With the adoption of the NAP, it is possible to tell that in the Republic there is already a basic official document on combating desertification and implementation of the Convention. In this programme, the basic processes leading to desertification and its consequences, and also realization of strategic actions for preventing and overcoming this process, are reflected.

The NAP is a clear and proven document, but the question of realization of this document remains, at present, unresolved, as the source of financing remains open. In first half of 2002 the Government should ratify the plan of measures for the realization of this programme. However, neither Ministry of Economy and Trade nor Ministry of Finance have given their consent because of the absence of means and the sad situation of the national budget.

As for assistance of the developed country Parties to the Convention, the proposals for assistance have not yet been received at the address of NCB.

According to this situation we would ask the secretariat of the Convention and Global Mechanism to find ways to overcome this situation.

On the question of interrelations between NAP and SRAP/RAP, it is possible to tell that NAP is at a stage of coordination only with SRAP. We hope that, as soon as SRAP is finalized, they will become more closely interconnected.

In the section of the NAP on strategy, the development and acceptance of a number of the legislative-normative documents was mentioned. It is necessary to note that the parliament of the country officially accepted two laws in this respect in 2001, namely Law on economic estimation of grounds and Law on land management.

Participatory process in support of preparation and
implementation of the NAP

After the first national report, the Second National Forum was held, in which a number of ministries and departments, representatives of local bodies of authority and NGOs took part. The forum approved the designed NAP. The work of the forum was broadcast on national television and radio. Some information was also published in the mass media. The NAP was issued in three languages: Tajik, English and Russian.

After approval of the NAP, the process of coordinating it with a number of the ministries and departments, especially with the Ministry of Finance, Ministry of Economy and Trade, Ministry of Justice and other important and interested ministries, began. The process of coordination once again resulted in some changes in the programme, and it was submitted to the Government for adoption.

At the present time, the NAP is accepted; however, for its dissemination and distribution after adoption, the financial support is necessary.

Consultative process in support of the preparation and implementation of the
NAP and partnership agreements with developed country Parties and other
interested entities

By adoption of the NAP, the Government requested all ministries and departments, Academy of Sciences of the Republic of Tajikistan and local bodies of authority to render assistance to the National Coordinator for implementation of the programme. This demonstrates that in the country everyone is involved in the implementation of the NAP.

At the present time, local bodies of authority are developing the plan of measures for implementing the NAP. They should also provide some financing for its implementation in the local budgets.

As to the participation of the international partners, there is no progress. However, GTZ provided some assistance in 2001 in training of experts to draw up small pilot projects. For this purpose, the representatives of the GTZ arrived in Tajikistan for one week.

Measures taken or planned within the framework of the NAP,
including measures to improve the economic environment
and to conserve natural resources

It is necessary to note that in Tajikistan all efforts for implementation of the NAP are already undertaken. In 2001, in accordance with the programme, two new laws mentioned above will help towards realization of the NAP within the country.

With the purpose of awareness-raising of desertification and monitoring and assessment of consequences of drought, many ministries are planning courses with both national and local experts. Such training courses are organized at the Ministry of Agriculture, Ministry of Nature Protection, State Committee for Land Management and elsewhere.

Financial allocations from national budgets in support of implementation as
well as financial assistance and technical cooperation including their
inflows. Processes to identify their requirements, areas of funding and
setting priorities

According to the Land Code, the taxes on the use of lands are directed for improvement of the condition of lands. However, since expenditure part of the budget is higher than the income part, not all these taxes are directed towards measures against land degradation.

In recent years, some financing has already begun on the part of local bodies of authority for measures directed for reduction of land degradation. These are, basically, tree planting, combating salinization, improvement of pastures and other measures.

All these individual measures cannot suspend the global process of desertification in the country; financing from the donor country Parties and international organizations is indispensable.

There has begun the financing of credit of about 20 million US dollars from the World Bank for improvement and reforms of agriculture and irrigation systems, and also for combating desertification in the country. In addition, a grant within the limit of 40 million US dollars from the Asian Development Bank is planned. These allocations will be directed towards improvement of the created situation and against degradation of irrigation lands.

Review of benchmarks and indicators utilized
to measure progress and an assessment thereof

It is necessary to note that there are State bodies for the control of rational land use, land degradation and combating desertification in the country, which should not only be observers, but also take concrete measures. These bodies are: State Committee for Land Management and Ministry of Nature Protection. They have the power to make all necessary information on land degradation and desertification and other information about the environment accessible to all beneficiaries.

There is a reform of agriculture in the country, which means that lands transfer from the public sector to private. Large State agriculture enterprises are dismantled. The final purpose of this reform is rational land use, saving land from degradation and increasing the well-being of the population; it will also help to halt the process of desertification in the country.

THAILAND

Thailand has been taking care of environmental quality for quite a long period of time. After the Earth Summit held in Rio de Janeiro in 1992 and the emergence of many following international conventions, Thailand takes this opportunity to strengthen and increase effort and caring for more effective environmental quality management. Thailand has already shown keen interest and readiness which can be perceived from the determination of the present Constitution, the 9th National Economic and Social Development Plan (9th NESDP), the Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality, and other policies of the Government. Each, in line with the UNCCD, contains essential guidance for revitalization of societies for effective management of natural resources.

The Constitution of 1997 gives administrative power to local communities through *Tambon* (subdistrict) Councils and directs the Government to provide farmers with appropriate land uses and holding systems, sufficient water resources, protection of farmers' production and marketing, and promotion of meetings for planning and protecting their mutual interests.

The 9th NESDP strategically promotes local and community participation with a transparent administration system for improvement of mechanisms for the management of natural resources and the environment. It targets conservation and restoration of natural resources with the aim of having: no less than 25 per cent of conserved forest and 1.25 per cent of mangrove forest, not exceeding 0.8 million hectares of soil erosion, and 1.6 million hectares of problem soils developed.

The Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality integrates natural resources management and conservation of national environmental quality with sustainable economic and social development to ensure quality of life. It focuses attention on the roles and functions of people, technology, local organizations and NGOs to constitute each subdivided five-year period Provincial Environmental Quality Management Action Plan. Having foreseen resource use upon conservation by decentralized administration and awareness of people, the main policy is devoted to supporting and increasing management efficiency to coordination among organizations, systematic decentralization of authority, establishment of social justice, amendment of the legal and regulatory framework, conducting research, and increasing the conservation awareness of all levels of actors.

The policy of the Thai Government is also to restore the condition and quality of natural resources and to prevent degradation and depletion of

natural resources for the benefit of the people's livelihood by means of good governance, popular participation, and promotion of technological research and development.

Coincidentally, combating desertification has been specifically under the responsibility of the Land Development Department (LDD) since its establishment in 1983. Considered to be the area of competency and mandated in correspondence with the UNCCD's main interest, the LDD was assigned to take full capacity as NFP of the country. The Land Development Act 1983 prescribes that the LDD has a duty to look after land development of the country. This year it receives as much as US\$ 60.32 million budget allocation for more than three thousand staff to combat desertification all over the country. The Board of Land Development was put in the place of the NCB because of the right duty and composition of its executive members from different concerned departments, and it is chaired by the Minister of Agriculture and Cooperatives.

In Thailand, the land degradation process starts from deforestation and results in soil erosion and salinization. Surprisingly, the norm for addressing land degradation by the Thai Government is close to the one of the UNCCD.

In fact, the task of combating desertification is a major one. The LDD alone cannot cover all aspects of desertification. Fortunately, at least two other departments have been working on two important aspects for quite a number of years and cooperation with the LDD already exists.

Meteorological data has been recorded and used for agriculture since 1923. Weather forecasting by the Thailand Meteorological Department (TMD) starts from conventional data recording by local stations throughout the country and moves forward to utilizing a sophisticated remote sensing technology which makes weather forecasts available every day with more precise results.

Forest resources management has been specifically under the responsibility of the Royal Forest Department (RFD). Except for remote sensing and GIS computerized technologies that the RFD uses for forest management and monitoring, community participation has been proven successfully implemented at Doi Sammuen High Land Development Project which is ready to apply the system to other places.

The LDD also applies remote sensing and GIS computerized technologies to many activities, i.e. land-use planning, soil surveying and classification, soil conservation, monitoring of land-use change, and expansion of soil salinization. The soil conservation service lays more emphasis on biological methods, especially using vetiver grass. At present, the LDD promotes land development technology and an extension service through Land Development Village and Volunteer Soil Doctor programmes. The LDD also runs a New Theory programme for individual farmers who own a small piece of land. This programme aims to establish self-sufficiency and minimize risk for individual farmers by a specific land-use pattern and farm pond to have enough water for a whole year's consumption. Other programmes in line with the UNCCD are as follows:

- Small-scale water resources development project
- Farm ponds development project
- Land development on high land community project
- Saline soil development project (phase 2)
- Tung Kula Rong Hai development project (phase 4)
- Soil and fertilizer management project
- Royal development and usage of vetiver grass project
- Land-use planning for watershed management project
- Soil survey, analysis, classification for land-use planning project
- Soil and water conservation project
- Highland development project
- Extension and public relations on soil and water conservation project
- Land development research project
- Royal land development project
- Eastern soil and water conservation project

To summarize all the advantages of current environment management, Thailand is ready with the following reasons:

- Thailand has a Land Development Department which has been working in line with the UNCCD and which includes the NFP office.
- Thailand has policies in line with the UNCCD.
- Implementation plans for combating desertification do exist. Though they have not been directly formulated under a NAP, minor adjustment can be made.
- Science and technology is already available. Monitoring and evaluation of major aspects of desertification have been proceeding with remote sensing, GIS, information database and computer technology.
- Combating desertification is being implemented throughout the country.
- Local participation is increasing and empowered by decentralized policies of the present Government and present Constitution that leads to enactment of Tambon council and Tambon's Authority Organization Act 1994.
- The annual budget for combating desertification is available on a continual basis with respect to the 9th National Socio-economic Development Plan.
- The Land Development Department has more than 3,000 staff all over the country.

TURKMENISTAN

Owing to its natural conditions, which cause a sharply continental climate, Turkmenistan belongs to the zone of central Asian deserts. The northern part of Turkmenistan is within the area of ecological crisis of the Aral Sea region. Therefore, the country is constantly under the influence of the processes of desertification which affects the socio-economic sphere of Turkmenistan. Hence, environmental protection, the rational use of natural resources and the effective utilization of land resources, in particular, are the priority issues in the State environmental policy of Turkmenistan.

The ecological problems of Turkmenistan are closely linked with the agrarian sector. The agricultural lands make up 40 million hectares. The area of land suitable for irrigation farming reaches 17 million hectares. Among these, two million hectares are used for production of crops.

90% of the country's territory is characterized by desert terrain which serves as year-round pastures for sheep and camels. Of 39.5 million hectares of pastures 70% is degraded, 40% has no water supply and 5% is transformed into moving sand. Almost all territory of the plains belongs to the sandy deserts formed by the sediments of an ancient river flow, and is therefore subject to wind erosion.

At present, 30% of irrigated land is in a state of strong salinization and 50% in a state of moderate salinization. Therefore, the productivity of agricultural areas has reduced by up to 50%. Hence, it is necessary to carry out a complex range of measures, including the construction of a drainage network.

The questions of priority in the field of protection of land resources of Turkmenistan are the following:

- Reducing anthropogenic salinization of soil;
- Reducing pasture degradation and the processes of desertification;
- Reducing wind and water erosion;
- Control over the degradation of natural soil layers.

At the national level the project "Potential-21" provides the realization of measures on implementation of the requirements of the United Nations conventions on environmental protection, which are signed and ratified by Turkmenistan. They are: the UNCCD, the CBD, the UNFCCC, the Aarhus Convention, the Montreal Protocol on Substances that Deplete the Ozone Layer, and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

The issues of further development of the country have been reflected in the national programme "A strategy of socio-economic transformations in Turkmenistan for the period up to 2010".

In 1998 the Government of Turkmenistan and the UNDP in Turkmenistan signed the project "National programme on protection of the environment in Turkmenistan".

Turkmenistan, as a country with arid landscapes, actively takes part at all stages of the realization of the UNCCD. Turkmenistan joined the UNCCD in 1996. The overall objectives of the NAP are the following:

- Definition and assessment of the natural-economic potential of Turkmenistan in the conditions of transition to a market economy;
- Development of economic technologies in restoration of the degraded areas and the rational use of natural resources.

In the number of main tasks for realization of the programme are included:

- Development of the national system of monitoring of desertification;
- Rational use and improvement of irrigated lands;
- Rational use and improvement of pastures;
- Cultivation and restoration of forests;
- Support to scientific and technical investigations.

The Constitution of Turkmenistan stipulates the responsibility for environmental protection. The Cabinet of Ministers is responsible for economic and social development and the rational use and protection of natural resources.

The Ministry of Environmental Protection of Turkmenistan is the main supervising body in the field of environmental protection.

The State Commission was formed in March 1999 in order to provide better coordination of the ministries and organizations involved in the realization of the obligations of Turkmenistan on implementation of the United Nations conventions and programmes on environment protection, as well as the realization of the State policy in the field of protection and rational use of natural resources. According to its purposes, the State Commission executes the functions of the NCB.

The chairman, nominated by the President, is the head of the State Commission. The members of the Commission are coordinated with the relevant ministries and institutions and affirmed by the President of the country by the presentation of the chairman of the Commission.

The chairman of the Commission is the Vice-president of the Cabinet of Ministers of Turkmenistan. The deputy chairman is the Minister of Environmental Protection of Turkmenistan.

The National Institute of Deserts, Flora and Fauna of the Ministry of Environmental Protection of Turkmenistan is the National Coordinating Centre to Combat Desertification in Turkmenistan. Thanks to the support of GTZ (Germany) the Consulting Centre to Combat Desertification was established in the Institute in 1997. The Centre is equipped with modern computer and telecommunication equipment, and software for operation of GIS.

The protection and rational use of natural resources is one of the main concepts of the State policy of Turkmenistan. The Ministry of Environmental Protection, the Ministry of Agriculture, the Ministry of Water Economy, as well as the civil organizations with ecological orientation, have the right of the legislative initiative on the related issues. The drafts of laws have been previously discussed in the Scientific, Educational and Cultural Committee of the Mejlis (Parliament) for their further approval.

Within the framework of the NAP to combat desertification the project "Participatory Management of Natural Resources" is being carried out in Turkmenistan in close cooperation with GTZ. The project started with the pilot activities within the framework of the Project on Support to the Desert

Research Institute in Yerbent Region (Central Karakum) in 1998. In April 2000, the project was extended over two more pilot regions.

The concept of the process-oriented project is an attention focused on the people affected. The important activities of the project are the following: ecological education and cooperation with teachers, raising of public awareness of the ecological problems, as well as informing on the project's activities and information exchange at the national and international levels.

The project uses various methods in order to apply the project's activities on a wider scale or to begin new activities, for example the expansion of activities within the same region from the one "target settlement" to other settlements at their own request, and the involvement of the representatives of different pilot regions in the seminars together with the local population in order to demonstrate and to discuss the new project's activities. Such seminars are being carried out once a year in each pilot region.

From the very beginning of the project the raising of awareness of environmental problems and ecological education were important measures within the framework of implementation of the project. A number of ecological seminars for the teachers and directors of schools were carried out in each pilot region. Ecological education in the schools connects the theoretical lessons in classrooms to practical activities, for example the creation of school gardens and forest nurseries, and collection of seeds and planting of trees together with the village inhabitants.

For the certain activities of the project, information exchange and cooperation were carried out:

- in each pilot region;
- between three pilot regions;
- with other projects, organizations and NGOs.

As an information exchange the experience of the project in Turkmenistan is to be used in the future, in particular for development and realization of the pilot projects in other Central Asian countries (in cooperation with GTZ-UNCCD-Project in Bonn).

The national and international organizations and projects dealing with resource management in Turkmenistan (for example, the Ministry of Environmental Protection, UNDP, TACIS, British campaign ERM etc.) were informed on the project activities.

A number of NGOs function in Turkmenistan. They carry out the projects strongly related to the realization of the United Nations conventions and promote the increase of public awareness.

The economic, scientific, technical and cultural agreements of Turkmenistan with Germany, India, China, Iran, Russia and other countries stipulate the use of experience in the field of nature protection, and promote joint scientific researches and information exchange in the field of desertification control.

In realization of the NAP Turkmenistan closely cooperates with GTZ. The joint projects have been carried out with the consultative, financial and technical support of Germany.

Turkmenistan closely cooperates with the secretariat of the UNCCD to develop the NAP and SRAP programmes. With the support of the UNCCD secretariat, the following projects have been carried out: "Realization of the NAP in Turkmenistan" (project UNDP/UNSO), "Support to the National Focal Point in Realization of the NAP". The sponsors of these projects are Finland and Switzerland.

Presently, the SRAP in the Aral Sea Basin has been prepared with the organizational and consultative support of GTZ and the UNCCD secretariat. Five States of Central Asia participate in this project.

A Strategic Partnership Agreement for Implementation of the UNCCD in the Central Asia Subregion (SPA) was developed by the GM, bringing together the GM, the ADB, the CIDA and the UNCCD Project of GTZ (Germany) to foster collaborative implementation of the UNCCD in Turkmenistan and the other Central Asian republics.

Turkmenistan is developing its cooperation with international organizations such as UNEP, ESCATO, USAID, TACIS, the World Bank, etc. Thanks to the financial help of UNEP, the book "Problems of Development of Arid Lands" has been published in English.

According to the agreement between the National Institute of Deserts, Flora and Fauna of Turkmenistan and the Research Institute of Arid Lands of India, the book "The Karakum Desert and the Tar Desert" has been issued in the English and Russian languages. At present, the National Institute is conducting the preparatory work on drawing up the "Atlas of Desertification of Asia" with the participation of scientists from China, India, Islamic Republic of Iran, Kazakhstan, Mongolia and Uzbekistan.

During the 10 years of political independence of Turkmenistan a number of practical measures have been carried out to improve the economic and environmental situation in the country.

The problem of poverty as such has never been acute in Turkmenistan. The poverty index of the population was calculated by the method used in the industrialized countries and reached 18.1% in 1998. In the process of realization of the national programme "The Strategy of Socio-economic Transformations in Turkmenistan for the Period up to 2010" a steady increase in GDP is expected.

The well-being of the population in the rural areas in many respects depends on the availability of basic services such as a supply of drinking and irrigation water, natural gas, electricity, transport.

For the rational use of natural resources the Turkmen Government has carried out a number of concrete measures. The conservation of land resources is one of the main tasks of environment protection.

The Land Code of Turkmenistan, regulating land relations in the country, aims to create the conditions for effective utilization and protection of land, continuing restoration of soil fertility, preservation and improvement of the environment, and equal rights in development of all forms of land economy. According to the Land Code, land owners and land users are obliged to apply environment-friendly technologies, not to exhaust the natural resources and not to cause the ecological conditions of the area to deteriorate as a result of their economic activity.

Despite big achievements in the field of land protection, many aspects of this problem have not yet been solved. Such facts as irrational use of land, soil salinization, waterlogging, soil erosion and degradation in the significant areas, as well as over use of land for non-agricultural purposes are still taking place.

An expansion of forecast researches on use of land resources, the protection of land and rational land use in respect of soil-climatic conditions, and other tasks of development in Turkmenistan, have great importance for developing measures on rational land use.

The certain monetary fund for the realization of priority measures on environmental protection is provided from the national budget annually. In addition, some relevant ministries and organizations provide financial help for nature protection measures.

The decision of the President of the country about free consumption of natural gas, electricity and drinking water for domestic users has helped to reduce anthropogenic pressure on the environment and to improve the ecological situation in the country.

By the decision of Government, the joint-stock company "Goek Gushak" (A Green Belt) was founded in Turkmenistan in 1999. The task of the company is the restoration of forests and creation of gardens around the settlements. The expenses of these activities are covered by the State.

The Ministry of Environmental Protection of Turkmenistan is the main State supervising body in the field of environmental protection. The National Institute of Deserts, Flora and Fauna is the National Coordinating Centre to Combat Desertification. Both are financed from the State budget. A number of research institutes involved in the realization of the NAP are also financed from the State budget.

For the successful realization of the NAP greater financial support from the national budget is required, basically, for the logistics supply.

One of the main external sources of financing for realization of the NAP is the GTZ which supports the implementation of the project "Participatory Management of Natural Resources".

The project UNDP/UNSO "Realization of the NAP in Turkmenistan" was carried out with the financial support of Finland. The project "Support to the

National Focal Point in Realization of the Convention" has been carried out with the support of the UNCCD secretariat (the donor country is Switzerland).

The project "The Integrated Methods of Development of Animal Husbandry and Conservation of the Pastures in Central Asia" has been carried out within the Global Livestock/Small Ruminant Collaborative Research Support Programme (GL/SR-CRSP) with the cooperation of the University of California (Davis, USA) with the financial support of USAID.

The project "Integrated Crop Production and Animal Husbandry in the Steppes of Central Asia" has been carried out together with ICARDA and financed by IFAD.

The Regional Thematic Centre to Combat Desertification was established at the National Institute of Deserts, Flora and Fauna within the Caspian Ecological Programme and financially supported by TACIS.

Cooperation with the GM is also strengthening. Together with the Asian Development Bank, the GM will render consultative and financial help to the regional project "Technical Assistance to Combat Desertification in Asia".

A long-term monitoring database allows scientists and experts of Turkmenistan to determine the beginning and duration of the processes of desertification, to estimate their spatial-temporary dynamics and to provide forecast information about further development of the components of the environment.

Surface monitoring has been carried out at experimental agricultural stations for tracking a dynamic of soil within the irrigation zones in all regions of the country. The diagram maps of soil are composed on the base of monitoring data. Such maps have been updated every five years and presented to the Ministry of Agriculture.

The results of monitoring of the condition of irrigated areas are elucidated in a year book "The Meliorative Conditions of Irrigated Lands in Turkmenistan" and handed further to the interested organizations within the system of the Ministry of Water Economy and the Ministry of Agriculture for planning improvement measures for soil for the next year (washing salinized soil, construction and repair of a drainage network, etc.).

The informational database for the analysis and evaluation of realization of the UNCCD was created at the National Institute of Deserts, Flora and Fauna. The database contains the body of information which was accumulated during a long period of time and is necessary for the scientific analysis, planning and realization of measures on environmental protection and rational use of natural resources.

The National Institute of Deserts, Flora and Fauna has developed the methodology for monitoring and guidelines on drawing up the map of desertification, which were discussed and approved by the relevant departments of UNEP, ESCATO and FAO. The schematic map at a scale of 1:1,000,000 of the present state of desertification of the territory of Turkmenistan was composed on the basis of an accumulated database.

TUVALU

Tuvalu, meaning 'eight standing or bound together', lies in the centre of the largest global ocean - the Pacific Ocean. The linear chain of islands aligned in a north-west-south-east orientation, falls between 5⁰ and 10⁰ latitude south and between 176⁰ and 179⁰ longitude east. This places it approximately 250 km south of Kiribati and 1,100 km north of Fiji. A total of nine islands are included within this boundary and comprise five atolls, three table-reefs and a single composite island.

Tuvalu's climate is described simply as tropical and marine. Although Tuvalu is located outside the tropical cyclone belt, it has suffered significant damage from tropical cyclones. Much of this is due to the shifts in weather patterns over the Pacific Ocean which may contribute to an intensification of tropical cyclones and hurricanes in the area. The average annual rainfall varies between the Northern Islands and the Southern Islands, while the surface temperature is generally uniform for all the islands.

The two main resources in Tuvalu are land and marine. In total they contribute considerably to the national GDP. The land is the only way that people get their staple food, otherwise dependence on imported goods is emphasized, which promotes lifestyle diseases such as diabetes and high blood pressure. However, this provision of food would discontinue if there were no mulching and composting being undertaken by the locals to keep the land fertility level high.

The marine resource of Tuvalu is very special in a sense that all Tuvaluans depend on it for protein supplements and it contributes approximately 20% to the GDP. To this end, it is just and fair to raise public awareness of the consequences with respect to unsustainable harvesting of marine resources so as not to compromise the prospects of future generations. However, there are community-based traditional controlling measures in maintaining sustainable harvesting and conservation of the marine resources.

The economy of Tuvalu is a blend of subsistence and cash. Although there is a shift towards a cash economy, in fact, Tuvalu's dependence on foreign international assistance remains due to limited land, and low market and cash incomes. The GDP is currently estimated at US\$ 13 million per annum.

In signing the UNCCD in 1998, the Government of Tuvalu recognized that drought was an impending problem and would reoccur in the near future; therefore action was needed to address it. However, that desertification is not perceived to be a priority issue, may be due to a lack of expertise in the field.

The Secretary for the Ministry of Environment, Energy and Tourism is the NFP for the UNCCD, UNFCCC and most international environmental conventions. The Climate Change Office and the Country Team have been given overall responsibility to implement activities for the UNFCCC and UNCCD. However the latter has no financial mechanisms to implement its activities.

To date, the NAP on desertification has not been developed or formulated and as a result requires technical assistance from the UNCCD secretariat. However, activities implemented in other environmental projects are deemed relating to desertification through the promotion of land conservation and management programmes. Yet, the extension of these activities to the other islands, apart from Funafuti, and improving the economic environment, conserving natural resources, improving institutional organization, and monitoring and assessing the effects of drought rest on political resolve.

Stakeholders are at the forefront of the implementation of the above programmes. Therefore, stakeholders should be involved in the formulation of the NAP and Land Conservation Programmes. Awareness-raising programmes should also include key stakeholders. However, due to the lack of financial assistance from donors and international partners, these programmes are most likely not to occur.

The shredding of vegetation waste is a positive outcome as it will halt the uncontrollable burning of vegetation waste occurring in every community, increase the domestic production of vegetables and promote healthy living. Several other activities implemented in other projects also have positive outcome for the Tuvaluan community. Therefore lessons learnt from these activities need to be extended to the other islands with local and foreign assistance.

Finally, to undertake land conservation and management programmes and activities successfully, land information is needed. However, problems of land degradation and desertification should also be understood.

UNITED ARAB EMIRATES

Introduction

The United Arab Emirates (UAE) is different from other countries on matters relating to strategies and plans dealing with combating desertification. The term "combating desertification" in the UNCCD is opposed by the term "greening the desert". The latter is the prevailing applied practice in the United Arab Emirates. It concerns converting the natural desert environment into productive agricultural land, conserving its biodiversity and increasing its economic outcome. The "greening the desert" approach has been adopted and implemented by UAE.

This report has been prepared according to the document ICCD/CRIC(1)/INF.5 and communication with the UNCCD secretariat; it highlights the UAE's efforts on sustainable development and combating desertification.

Desertification is defined as degradation of arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities. "Combating desertification" includes activities which are part of the integrated development of land in arid, semi-arid and dry sub-humid areas for sustainable development and which are aimed at: (i)

prevention and/or reduction of land degradation, (ii) rehabilitation of partly degraded land, and (iii) reclamation of desertified land.

Many countries of the world are suffering from desertification. It is caused primarily by human activities and climatic variations. The UAE is located within the arid west continental desert belt; its environment (as that of many of the arid and semi-arid environments in the world) is highly sensitive. The sensitivity is attributed to the delicate balance between various natural systems and components such as climate, water resources, soil, vegetation and biodiversity. Accordingly its exposure to the impacts of aridity and desertification is considered to be a reoccurring phenomenon.

The national plans and strategies within the framework
of sustainable development

Desert retreat in front of the increasing agricultural land

The UAE first five-year development plan (1981-1985) included an important objective, to increase the agricultural lands and forests. The then suitable land for agriculture was approximately 200 thousand hectares, which is equivalent to 2.4% of the total area of the country. The development plan aimed at spending on development of the agricultural sector 3,673 million dirham. Out of this, 1,382 million dirham was allocated from the Federal Government, 752 million dirham of this to be spent on making water available and to establish modern irrigation networks. These investments are true combating desertification activities. The cultivated area increased from 32.5 to 43.6 thousand hectares during the period 1975-1985. In 1985 the cultivated land reached 68.3 thousand hectares (40,000 of which are forests). The cultivated land increased in the following years by an annual rate of 9.4%. It reached 161.7 thousand hectares in 1990 (100,000 of which were forests), and area of 266,000 in 1995 (200,000 of which were forests), and 546,500 in the year 2000 (300,000 of which were forests). The rate of the annual increase in the cultivated land reached 14.9% during the period 1985-2000. By the year 2000 the cultivated land reached 6.5% of the total area of the country.

The increase in use of underground water in the UAE is a determining and the most important factor in deteriorating water quality; this is because of the lack of forest cutting and a lack of encroachment of urban areas upon cultivated land. On the contrary, all development projects tend to increase and reform the cultivated lands. The Government realized the importance of, and monitored the shortage and the imbalance in, the underground water. Financial resources were allocated to popularize modern irrigation practices. The high-ranked authorities in the country are studying carrying a strategic plan to discover and develop deep underground water, in addition to adopting sustainable polices for the use of underground water.

National plans or strategies available in other social and economic areas

The discovery of oil and its production in commercial amounts, and the Government's efforts to invest the newly-gained financial resources in developing other economic sectors, created new economic challenges in the

country. This was in addition to the creation of the new Federal Government late in 1971, which increased the duties of providing the necessary public services and creating the atmosphere for overall economic development. The challenges made it important to organize development activities in a way to satisfy the growing needs and to use resources wisely.

Since its establishment the UEA has not spared efforts to conserve its environment, develop natural resources on sustainable bases and combat desertification. The UAE considered this as one of its development pillars and thus was able to accomplish great achievements in the various fields relating to the protection of the environment and combating desertification. In a relatively short period, these achievements would not have been possible without the wise policies and the urgency that His Highness Sheikh Zayed Bin Nahyan, the President of the UAE, has placed on dealing with environmental issues. His Highness highlighted this interest in his message to the Earth Summit in 1992.

The UAE interest in environmental issues was expressed in fulfilling the UAE commitments towards the international agreements, which it joined. One example is the UNCCD, which it joined in January 1999.

The establishment of the Federal Environmental Agency (FEA) in 1993 reconfirmed the UAE's interest in the environment and was a major step towards consolidating the role of the Federal Government in addressing environmental concerns in the country. This included the preparation and adoption of the UAE National Environmental Strategy and the National Environmental Action Plan in 2002 and the NAP to combat desertification (draft) in 1995.

There are other sectoral relevant plans and strategies in agriculture, energy, education, trade, health, poverty eradication, migration, forests, climate change, biodiversity, coastal and marine resources etc. These have been discussed within the UAE National Environmental Strategy.

The National Environmental Strategy and the NAP of the UAE

The Federal Environment Agency prepared the National Environmental Strategy and the NAP for the UAE. The strategy and the plan were adopted in 2002 in the context of the national policies for conservation and sustainable use of natural resources, combating desertification and fulfilling the commitments of Agenda 21.

The first part, completed in December 1998, was concerned with the UAE's National Agenda 21, and included the 10 working groups' sectoral reports. The sectors are: Municipalities, Water Resources, Marine Environment, Planning and Urban Environment, Agriculture and Land Resources, Industry, Energy, Health, Education and Environmental Awareness, Oil and Gas.

The second part of the strategy, completed in 1999, included the strategies and the environmental action priorities of each of the ten sectors. Accordingly, the following were selected as being of national priority, i.e. National Agenda 21: fresh water and its resources; pollution of air, fresh

water, marine environment, wastes management, urban environment, and loss of land resources and biological diversity.

The third part of the strategy was completed in 2000. It included the proposed programmes that would achieve sustainable development. Of relevance to the issues in this report are the proposed projects of the Water Sector and the Agriculture and Land Resources Sector. They cover what is required by the UNCCD to be implemented for combating desertification.

Preliminary study on protected areas in the UAE

The UAE has taken care of wildlife and protected endangered species since early times. A series of terrestrial and marine protected areas was established. In order to promote the existing efforts further, the FEA started carrying out a preliminary study on the protected areas in the UAE. It is expected that the results of this study will pave the way for adoption of a national conservation strategy.

The draft national UAE plan for combating desertification

The UAE prepared in cooperation with ESCOWA (in 1995) a draft plan of action for combating desertification in the UAE. The plan was not implemented; it was thought wise to replace it with the UAE National Environmental Strategy and the Plan of Action.

Scientific and technological activities relevant to combating desertification

Many scientific and technological activities have been carried out in the UAE, resulting in greening deserts, afforestation, and planting nutritious products for human beings and animal feed. Such activities started with the formation of the country in the 1970s, before the creation of the UNCCD. These practices give the UAE an advantage when talking about combating desertification. The UAE way of taking decisions relating to combating desertification is built upon a scientific basis of research, information systems, and resources management and activities control. Other concerned parties and units in the country are carrying out many related activities, according to their specialization. The big achievements in the agriculture field play an important role in reaching the ultimate goal of food subjective sufficiency. Many experiments have been done in planting different types of fruits and vegetables using modern technologies to increase and improve production. These experiments have given good results when using technologies available in governmental research centres in Al Ain, Al Zaid, Al Hamarania and Kalbaa, starting from mechanization of palm pollination and ending with examining the plantation of more than 30 kinds of wheat.

Traditional technologies and knowledge

The rational leadership of H.H. Sheikh Zayed Bin Sultan Al Nahyan, President of the country, has been key to initiating a modern country, which attempts to achieve harmony with the local environment and to conserve its heritage and traditional knowledge and traditions, in order to protect it from deformation.

Along with the H.H.'s care and continuing directions for protecting the local heritage, widely-spread centres, societies, protectorates, museums and interested clubs have been formed, such as the Centre for Studies and Documentation, the Heritage and History Committee, the Local Heritage Animation Society, equestrians clubs, camel racing unions, traditional environmental industries centres and local groups for artists. In March 1985, the Local Heritage Animation Society was established with the purpose of preserving and animating the heritage and traditional knowledge in order for consecutive generations to have an idea of how their grandfathers used to live, and to shed the light on inherited traditions and knowledge. The same society later established the Zayed Local Heritage Village, which is now a pioneer symbol, representing old traditional life elements before recent development.

UAE residents are descended from different Arabian groups, where some of them used the "Travelling Badawi" lifestyle, depending on breeding camels and goats, as most of them were settled using simple agriculture and plantation of palms in Liwa Oasis. On the coastal area, groups used to work as fishermen and practised pearl hunting. In Al Ain Oasis, there are the groups practising agriculture, especially planting date palms using underground water and Aflaj irrigation. In the Northern Emirates where the rainfall is relatively higher, people practise agriculture throughout the whole year. In the Hajjar Mountains of Al Fujairah, agriculture is practised using the establishment of stages, where as in Dubai, Sharjah and Galfar (Ras Al Khaimah), people follow a trading lifestyle using boats and modern ships.

Early warning

Because of its responsibility towards securing lives and belongings in air, sea and lands, the Ministry of Communication is trying to find out about climate changes in the country. For that purpose, a project of forming an administration for meteorology has been executed since January 1992, steering the National Facility for Meteorology and furnishing it with the modern satellites used for meteorology. This project is now ready to provide meteorological services for all social and economic development sectors throughout the country. The National Facility consists of the main centre for meteorological predictions, the centre for meteorological communication, a centre for measuring meteorology methods, a workshop for meteorological systems maintenance and a general library for meteorology. The Ministry of Agriculture and Fisheries has 10 main meteorological stations provided with more than 60 machines for measuring the temperature of air, land and water, humidity, wind speed and direction, quantity of rain, and evaporation. Also, there are 32 other stations for measuring rainwater quantities.

All the previously mentioned stations and centres are used to monitor extremes in the climate elements, especially temperature, rainfall and wind. Also the Ministry of Agriculture and Fisheries undertakes monitoring of the changes in grassing and agricultural vegetation cover and its directions.

Institutional measures taken to implement the Convention

The functional national coordinating body (NCB) of the UNCCD

The FEA was authorized to be the functional national coordinating body (NCB) in the UAE for the UNCCD by the Council of Ministers' decision number 452/4 - 1997. With relevance to this, His Excellency the Minister of Health and the Chairman of the board of directors of the FEA established the NCF.UNCCD (National Committee for the Follow-up of the UNCCD) in 2001. The NCF.UNCCD is formed of 25 members representing 17 bodies working in fields relating to the UNCCD.

The organizational structure of the FEA consists of several directorates made up of sections among which is the Agricultural Activity and Combating Desertification Section. Similar units are also operating at each emirate level, reflecting the interest of the country in conserving natural resources, combating desertification and desert greening. In order to provide adequate coverage, the Government actually pursues capacity building through local training programmes and external scholarships for obtaining higher degrees in areas relevant to combating desertification.

The legal and legislative framework for protection of the environment

The UAE issued Law No. 24 concerning Environmental Protection and Development in 1999. It includes developing natural resources and sustaining biodiversity in the UAE through utilization in the most efficient and sustainable manner to the benefit of present and future generations, development of wild environmental resources, giving attention to biological diversity and increasing the green spaces using modern technologies and ways that protect and develop the agricultural areas, restricting any activity that damages or harms the quantity/quality of vegetation cover causing desertification or natural environment deformity, implementing provisions in approved international and regional agreements relating to environmental protection, reducing and controlling pollution, and conservation of natural resources.

Integration of combating desertification programmes into the National Development Plan

It is important here to emphasize once more that the UAE is different from other countries in matters relating to strategies and plans dealing with combating desertification. "Desert Greening" comes first in UAE policies and then, as part of this desert greening, treating those areas affected by the increase in water salinity.

At the implementation level, UAE concern for combating desertification is highlighted in the first and second parts of the National Environmental Strategy, which was adopted in 2002. In addition, the chapters relating to agriculture and land resources and water resources include objectives, policies and measures that are needed to conserve the land and water and to combat desertification. The programmes of the National Environment Strategy were developed including activities relating to combating desertification and reducing the impact of aridity. Once the NAP to combat desertification is

completed and approved, it will be integrated into the National Development Plan.

The Cabinet of Ministers formed on 28 January 2002 the "National Committee to Follow the Implementation of the UAE National Environmental Strategy and its Action Plan". This committee is assigned to make detailed studies on how to implement the sectorised programmes proposed in the UAE strategy. Desert greening and combating desertification are among those programmes.

*Subregional, regional and international cooperation
in combating desertification*

The UAE has participated in the subregional and regional meetings, e.g. the SRAP meetings for West Asia held in Bonn, Muscat and Riyadh in 2000-2001 to discuss the preparations for, and the implementation of, SRAP and NAP activities. At the national level the UAE is now preparing the inventory programmes for water resources (TN1) and vegetation cover (TN2) as part of SRAP activities for West Asia, as well as participating in the regional meetings for Asia. The regional and subregional action programmes have emphasized the need to harmonize their programmes with the goals of the NAP which that include monitoring and assessment of desertification, early warning of drought and desertification, water resource management, capacity building, developing rangelands and forests, and sand dunes fixation.

In 2000-2001, the UAE actively participated in the Steering Committee to Combat Desertification of CAMRE. The committee, in cooperation with subregional and regional organizations, was able to implement several activities in 2000-2001 within the framework of the programme for combating desertification and mitigation of drought effects including management of water resources, rehabilitation of vegetation cover and protection and conservation of genetic resources.

At the national level also, a survey of the coastal areas of the UAE was conducted using field surveys.

The NCF.UNCCD will link the national programmes with the subregional and regional programmes to benefit from the available capabilities and expertise.

Participation in preparation and implementation of the NAP

The units and parties in the UAE, concerned with "desert greening projects and programmes" participate fully in identifying the priorities of the NAP. Public awareness programmes are among them. A committee was established for this purpose from all those concerned with the protection of the environment.

The establishment of the NCF.UNCCD is a step further in the participation process in the preparation and implementation of NAP. Communication and information exchange among the concerned units and parties is carried through modern methods of communication: telephone, fax, and email, in addition to the traditional methods of meetings and verbal consultation.

The consultative process and partnership agreements with developed countries

In respect of the NAP, consultations with the concerned units and parties are carried via the NCF.UNCCD. The NCF.UNCCD was formed in 2001 to carry out the preparations for the NAP to combat desertification. However, the need arises both at UAE and GCC levels for technical assistance from donors and international organizations. The UAE will reflect these technical needs in the programmes to be prepared for combating desertification.

The partnership with the international organizations and the development countries is limited to some technical aid.

Activities relevant to combating desertification that have been implemented

The main activities relevant to combating desertification and conservation of natural resources include:

- Developing laws and regulations relevant to conservation and sustainable management of the environment and renewable natural resources;
- Preparation of the National Atlas including geographical and geological general information;
- Conducting many surveys on groundwater resources;
- Surveying the number of *Aflaj* and identifying the quantity of their water productivity;
- Developing wastewater treatment plants with an annual productional capacity of 108 million cubic metres;
- The total agricultural (cultivated crops and agro-forestry) area (in thousands of hectares) increased from 32.5 to 43.6, 68.3, 161.7, 266, and 546.5 in the years 1975, 1980, 1985, 1990, 1995 and 2000 respectively;
- The agro-forestry area (in thousands of hectares from the total agricultural lands) was increased from 40, 100, 200, 300 in the years 1985, 1990, 1995 and 2000 respectively;
- The suitable available land for agriculture was less than 200,000 hectares in 1975, approximately 2.4% of the total area of the country. The actual total agricultural (cultivated crops and agro-forestry) area reached in the year 2000 is 6.5% of the total area of the country;
- The forestation areas have been developed to reach 300,000 *dunms*;
- Establishment of several natural reservations on islands and in remote desert areas;
- Dubai, Al Ain, Sharjah and Abu Dhabi Municipalities have prepared land-use maps defining agricultural, urban and public areas.

National allocations from national budgets

The NAP is early in its preparatory stages. But the parties concerned, each in its area of authorization, finance existing and ongoing desert greening activities relevant to water resources, crop cultivation and agro-forestry. Financial aid is provided in support of animal feed production in order to release pressure on natural grazing lands, provision of water networks, and encouragement of local agricultural crop production. Local actors are ensured local funding resources and aid. Funding depends on the annual budgets of the

parties concerned, each in its area of authorization. Each sector allocates funds for desert greening and combating desertification projects and programmes.

The International Centre for Biosaline Agriculture (ICBA) is an international applied agricultural research and development centre established in Dubai. ICBA was established with funding from the Islamic Development Bank and additional support from the OPEC Fund, the Arab Fund for Economic and Social Development, the Government of the United Arab Emirates through its Ministry of Agriculture and Fisheries and the Municipality of Dubai.

Benchmarks and indicators utilized to measure and assess
application of the UNCCD

Implementation of desert greening projects and programmes is the most important indicator utilized to measure and assess application of the UNCCD. These projects and programmes are continuously under review, to ensure their success and continuity.

A National Committee (the NCF.UNCCD) was formed in 2001 to carry out the preparations for the NAP to combat desertification. However, the need arises both at UAE and GCC levels for technical assistance from donors and international organizations; the UAE will reflect these technical needs in the programmes prepared for combating desertification.

Agricultural policies in the UAE have been geared to encourage rational use of natural resources and achieve the highest level of yields. Also there is a common agricultural policy for GCC that was drawn up in 1984 and amended in 1999.

UZBEKISTAN

This report has been developed from the first national report (2000) considering the changes that have occurred. In preparing the report, information published in scientific papers was used. The specialists of the Main Administration on Hydrometeorology (*Glavgidromet*), the Ministry of Macro-Economic Statistics (*Minmakroekonomstat*), the State Committee on Nature Protection (*Goskommpriroda*), the Ministry of Agriculture and Water Resources (*Minselvodhoz*), the Academy of Sciences (AN), national universities, NGOs, and the Centre for Science and Technology.

Deserts and semi-deserts occupy 80 per cent of the territory of the Republic of Uzbekistan. Control of desertification and drought holds a high priority in ensuring sustainable development. This circumstance explains the active participation of the Republic of Uzbekistan in the design and implementation of the UNCCD. The Republic of Uzbekistan is the first of the Central Asian States and Newly Independent States to ratify the Convention and has taken an active part in all phases of its preparation.

Intensive land usage leads to irrigated lands degradation. Secondary salinization affects more than 50 per cent of irrigated areas. Cattle pasture and related erosion processes together with other anthropogenic impacts have resulted in rangelands depression (losses in forage capacity). 16 million hectares out of 23 million hectares are exposed to such depression, among them 7 million hectares to a great extent, where losses in forage capacity amount to 30-40 per cent and more. Drifting sands occupy about one million hectares, of which 200,000 have emerged in recent years along the boundaries of irrigated lands, which can result in intensified desertification processes.

Beginning in the last quarter of the twentieth century, and up to nowadays, the degradation of one of the world's major landlocked water bodies, the Aral Sea, has been taking place; the level of the sea has dropped by 17 metres and its surface area has shrunk by more than half. New sand-salt desert with an area of more than 30,000 square kilometres has emerged on the dried-out Aral Sea bed. Changes of climate, landscape, fauna and flora, as well as an intensification of salt and dust transfer in the Aral Sea littoral and adjacent territory, is intensifying the desertification processes. The deterioration of the environmental situation is having both a direct and an indirect negative impact on the quality of life and the health of 35 million people living in the Aral Sea basin.

In 1999, thanks to the financial and technical support of the Convention secretariat and UNEP, the NAP of the Republic of Uzbekistan to combat desertification was prepared. A wide range of the most eminent experts and scientists of the Republic of Uzbekistan were involved in drafting the text of the NAP. A number of seminars and workshops were held in Tashkent city and in the areas that have suffered worst from desertification, namely Bukhara, Samarkand, Urgench and Karakalpakstan.

These seminars and workshops helped to extend sufficiently the range of people involved in the preparation of the NAP; these are local communities, NGOs, students (hydrologists, soil specialists, land surveyors, hydraulic engineers, etc.).

A series of priority pilot projects, which are a component of the NAP, will permit the correctness of approaches to desertification and drought control in the Republic of Uzbekistan to be checked.

Thanks to financial and technical support from the UNDP/UNSO and the Government of Finland, the Republic of Uzbekistan has implemented a project on holding regional seminars and workshops.

The Government of Uzbekistan is implementing a series of projects aiming at desertification control. These projects are related to the provision of drinking water and gas to the rural population, and development of small-scale power engineering using alternative energy sources. Much has been done to change the crop pattern, put an end to the cotton monoculture and increase the area of land under cereals, vegetables and forage grasses.

However, to solve problems completely, to continue projects and to attract attention to the problem at a national and regional level, the financial support of the world community is needed. The support can be given as scientific-technical grants, seminars and workshops, publications, international consultants, technical support, preparation of legislative acts, etc.

In October 2001, a memorandum of understanding on strategic cooperation for UNCCD implementation in Central Asia between the UNCCD-GTZ project, the Government of Canada via CIDA, the ADB and the GM was issued.

The Government of Uzbekistan expresses its sincere gratitude to the secretariat of the UNCCD, UNEP, UNDP/UNSO and GTZ for their support to Uzbekistan in the issues relating to implementation of the UNCCD.

National plans and strategies available in other social and economic areas are aimed at sustainable economic development of Uzbekistan, and foresee:

- Securing a healthy and fruitful life for each citizen;
- Steady and stable social and economic growth and spiritual rejuvenation of the nation;
- Completion of structural and institutional reforms;
- Establishing a democratic state and socially-oriented economy;
- An improving ecological situation, overcoming the repercussions of the Aral Sea crisis;
- Rationalizing and wisely using land and water and other natural resources;
- Desertification control and improving the environment.

National plans or strategies in the field of combating desertification
developed prior to the UNCCD

Prior to 1991, governmental expenses on environmental programmes constituted only 0.06 per cent of the gross national product. Nature protection policy and legislation were mainly developing along different lines and provided for no interaction between the various environments. Planned environmental interventions were either not implemented or were implemented only partially, mostly due to lack of an adequate legal framework.

Starting in 1991, Uzbekistan has been integrating into the world economic and political structures, which has given a powerful impetus to the solution of environmental problems. Environmental protection has become an inseparable part of economic reforms. Social and economic policies and strategy are based on the principals of harmonization of production and environment, and awareness of the severity of the environmental problems facing the country.

Uzbekistan has launched a legislative reform reviewing the old and outdated acts and passing new ones. Since 1991 a new governing system has been emerging in Uzbekistan. The process of establishment of organizational structures, securing the country's sovereignty, has been mostly completed. The programme of reforms in Uzbekistan includes macroeconomic management and structural reorganization.

Scientific and technical desertification control activities

In Uzbekistan, special attention is given within the NAP framework to the development of scientific-practical achievements in the field of desertification control and drought influence mitigation. For the best usage of scientific-technical potential in the field of desertification control, the Government of Uzbekistan in the framework of the strategy of scientific-technical activity improvement has established a special section on soils fertility increase and highly technological methods to combat desertification.

The Coordinating Committee at the Cabinet of Ministers was established by the decree of the President of the Republic of Uzbekistan "On improving organization of research activity" of 20 February 2002. The Chairman of the Coordinating Committee is Prime Minister of the Republic of Uzbekistan. Under the Coordinating Committee, a specialized section on increasing soil fertility, highly technological methods of desertification control, securing rational use of, and increase in the number of, water resources, and environment protection and security was established.

At present, financing of the State scientific-technical and fundamental programmes, aimed at land fertility increase and desertification control, is being implemented at the national level. At present the Government of Uzbekistan finances the fundamental research, scientific-technical programmes and innovative projects aimed at clarification of a role and zonal peculiarities of natural and anthropogenic factors in desertification processes, developing modern technologies of sands recultivation, forest- and phyto-reclamation, raising soil fertility, and drought and salt tolerance of plants, and supply of energy and water to rural districts in desert and arid areas of Uzbekistan using alternative energy sources.

Implementation of the recommendations of the State Committee on Science and Technology

The local scientists and specialists force is being used for the development of projects and programmes, the public is getting acquainted with new scientific-technical achievements, information exchange is being performed, contacts with experts from other countries are being established, and traditional technologies are being studied and applied. The country's experts are participating in preparation of the project "Improving life conditions of the population on the base of Early Drought Warning System" jointly with GTZ-UNCCD.

Established and functional national coordinating body (NCB)

In accordance with the decision of the Government of the Republic of Uzbekistan, the *Glavgidromet* of the Republic of Uzbekistan established the functional NCB. The initiative for participation of the Republic of Uzbekistan in the negotiations for the UNCCD preparation and putting into practice the decisions of the COPs belongs to *Glavgidromet*. It was assigned the role of the NFP in the Republic, with its professionals taking an active part in UNCCD implementation.

An inter-departmental commission was formed to design the NAP. The Government of the Republic of Uzbekistan approved its membership.

Coherent and functional legal and regulatory framework

The coherent and functional legal and regulatory framework complies with the Constitution of the Republic of Uzbekistan, which guarantees the environmental security of the population. Legislation on nature protection has created economic and social prerequisites for environmental security of the population on the base of common principals of nature protection and wise nature management. To establish a necessary legal base in Uzbekistan during the period of independence, about 100 legislative documents, directly or indirectly relating to environmental protection and nature management, have been adopted.

With the active financial support of the UNCCD secretariat, UNEP and UNDP the stakeholders in the design and implementation of the NAP in Uzbekistan are Government agencies, State institutions, local authorities, NGOs, representatives of the general public and local communities affected by desertification. Scientists, water managers and agricultural professionals, women and students are also taking an active part.

To implement priority projects in 2001 with the support of the UNCCD secretariat and the Government of Germany, GTZ training has been conducted in Tashkent city and Samarkand city within the framework of the SRAP.

To prepare the Project "Early Drought Warning System", consultations with representatives of the national hydrometeorological services were conducted.

The UNCCD secretariat is taking an active part in the consultations. The technical measures to combat desertification have been developed. Studies, projects and pre-project works on desertification and drought are being implemented. Inter-departmental and inter-State cooperation in implementing the UNCCD is being strengthened.

In order to implement the NAP it is necessary to develop subregional cooperation in the Aral Sea basin which can be possible only with the financial support of the UNCCD secretariat and international organizations.

The strategic approach to addressing the problems of the country's development has been identified. Broad sections of the population, State bodies and NGOs are taking part in the NAP. International assistance helps to train national research and engineering personnel. The systems of investment programmes, sustainable development monitoring and the NAP structure reinforcement are being developed.

To implement the priority projects included in the NAP, consultations with international donors were conducted and the project proposals have been forwarded to the international organizations.

The Republic of Uzbekistan has fully paid its dues to the UNCCD to the amount of US\$ 7,970 for the period 1999-2001. The Government of Finland financed the

preparation of the NAP. In 2001 the agreement with GTZ about support for the project "Early Drought Warning System" in the Aral Sea basin within the framework of the SRAP was signed. At present the preparation for its implementation is in progress.

For the best project implementation at the subregional level, additional support is needed, as solution of the subregional ecological problems is possible only with support of the international organizations and especially the UNCCD secretariat.

This report has been prepared by the group of experts including the representatives of the Ministry of Macroeconomics and Statistics, the Ministry of Agriculture and Water Resources, the State Committee on Science and Technology, the Academy of Science and other interested agencies.

The representatives of the National Commission on UNESCO International Hydrological Programme and Water Economy Commission took part in the preparation of this report. It identified the needs for and the role of a national environmental information system in combating desertification in Uzbekistan, and many facets that are needed for diagnosis of desertification. This information is scattered in many organizations, in governmental, non-governmental and international organizations and universities.

The information for the report was prepared at seminars in Nukus town (Karakalpakstan) and Bukhara town using the data of local organizations. It was proposed that the exchange of data and information should be facilitated and that they should be included in the information exchange network.

VIET NAM

Desertification and land degradation are complex environmental and social happenings which occur in so many parts of the world, impeding socio-economic development and challenging human survival on earth. The impacts of the phenomena have become among the major concerns in the global environmental agenda, resulting in the birth of the UNCCD in 1994. One of the most forceful arguments for the negotiation of the UNCCD was the recognition of the increasing dimension of losses caused by land degradation and drought. The Convention's membership, which has expanded to over 170 Parties and continues to grow, manifests the Convention as an important and powerful instrument of the world community to put the problem under effective control.

In Viet Nam, according to the latest inventory, there is more than 9 million ha of unused land and water surface, of which large degraded barren hill areas have completely lost their biological productivity. Among the 21 million ha of in-use agricultural and forest land, a considerable part has low fertility, yielding minor crops, especially the forest land.

The main forms of desertification and land degradation in Viet Nam include soil erosion, serious drought, sand moving along the coast, land salinization in the Mekong delta, and land sliding. Accordingly there are four types of degraded land:

- Seriously eroded barren land in north and central Viet Nam;
- Areas affected by moving sand and land sliding along the narrow coast in central Viet Nam;
- Waterlogged saline and acidulated land in the Mekong Delta and Long Xuyen quadrangle; and
- Permanent or seasonal arid areas in many regions.

Although in Viet Nam there are deserts only at local level, some hundred thousand ha, local deserts/degraded areas are scatter-distributed over the whole country, mainly in mountainous regions. It is important to note that desertification in Viet Nam has occurred increasingly faster and at a bigger scale during recent decades, along with the intensification of agricultural and forestry production. The situation is placing heavily negative impacts upon different aspects of socio-economic circumstances, worsening rural poverty and undermining living environments, and therefore requiring Viet Nam to have well-elaborated strategies and priorities for combating it. This will be a long struggle to address the two basic problems: (1) elimination of the causes of desertification, and (2) rehabilitation and restoration of the production capacity of the deserted/degraded areas.

Realizing the importance of international cooperation in combating desertification, Viet Nam ratified the UNCCD in 1998 and, as a matter of fact, has implemented many programmes/projects of desertification control and has achieved encouraging success. However, in order to ensure that the Convention reaches the desertification-affected places a carefully elaborated NAP for implementing the Convention will be among the most important prerequisites.

For Viet Nam, combating desertification is mainly to combat deforestation, land degradation and drought; therefore implementation of the UNCCD must focus on (a) implementing programmes/projects to prevent deforestation, soil erosion, moving sand dunes, land salinization/acidulation, (b) reclaiming degraded land, (c) sustainable land use and water resources use, and (d) forecasting and preventing drought and flood. In the framework of the NAP the above issues should be interlinked with the country's struggle for poverty alleviation and sustainable development.

The national report has followed exactly the guidelines of the UNCCD, and decision 11/COP.1. It outlines briefly the main information on environment protection as well as on soil conservation, forest protection and development, water conservation and sand dune fixation activities of Viet Nam. It highlights the strategies and policy framework. This report is the result of collaboration/cooperation among the representatives of the related partners, such as Government Office, the Ministry of Foreign Affairs, the Ministry of Planning and Investment, the Ministry of Science, Technology and Environment, the Ministry of Agriculture and Rural Development, the localities and the executing agencies of international programmes and projects ongoing in Viet Nam. The report is also the result of a national workshop with the participation of many other social, economic and environmental sectors and institutions relating to environment protection and sustainable development in Viet Nam.

The main content of the report is divided into eight parts:

- Summary;
- Strategies and priorities established within the framework of sustainable development plans and/or policies;
- Institutional measures taken to implement the Convention;
- Participatory process in support of preparation and implementation of NAP;
- Consultative process in support of the preparation and implementation of NAP and the partnership agreements;
- Measures taken or planned within the framework of the NAP;
- Financial allocation from national budgets in support of implementation;
- Review of benchmarks and indicators utilized to measure progress, and an assessment thereof.

The priorities and strategies of the country relating to combating desertification are indicated as follows:

- Population growth control to release the pressure on natural resources;
- Sustainable management of natural resources;
- Forest protection and development;
- Research, training and extension activities on the environment;
- Disaster control and forecasting system;
- Formulating planning and policy on the environment;
- Control of the process of desertification, forecasting the impacts of this process on the most endangered provinces/areas and supporting these localities in setting up socio-economic development plans with environment protection concern.

The report also draws up some achievements and lessons learnt from past experience in the process of combating desertification. It also stresses the important role of local people and communities in activities relating to desertification control. The report also mentions the organization structure of the NCB and the role of the NFP in formulating and implementing the NAP. The important role of international cooperation and the necessity of integrated programmes/projects to mobilize all available resources, as well as technical assistance in the process of combating desertification, are also emphasized.

This report highlights the priorities of NAP implementation and the NAP financing strategies, and the partnership arrangement for NAP implementation as well as for the Forest Sector Development Strategies, which play a very essential role in combating land degradation and mitigating the effects of drought in Viet Nam. The information officially distributed about a current serious drought which has happened during the last seven months in the whole country, especially in central and southern Viet Nam, which has destroyed many agricultural crops and forests, is a signal of the need for further strengthening of initiatives to combat desertification and mitigate effects of drought in the country.